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Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

JANUARY, 1966

VOLUME 63, NUMBER 1

Scientific Articles

MESENTERIC ARTERIAL OCCLUSION IN THE NEWBORN, G. Keith Kennard, M.D., Richard A. Twyman, M.D. and Raymond B. Anderson, M.D. 29

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Special Feature

'MEDICARE': PANACEA, IT IS NOT, James C. Cope, M.D. and C. Joseph Stetler, LL.M. 13

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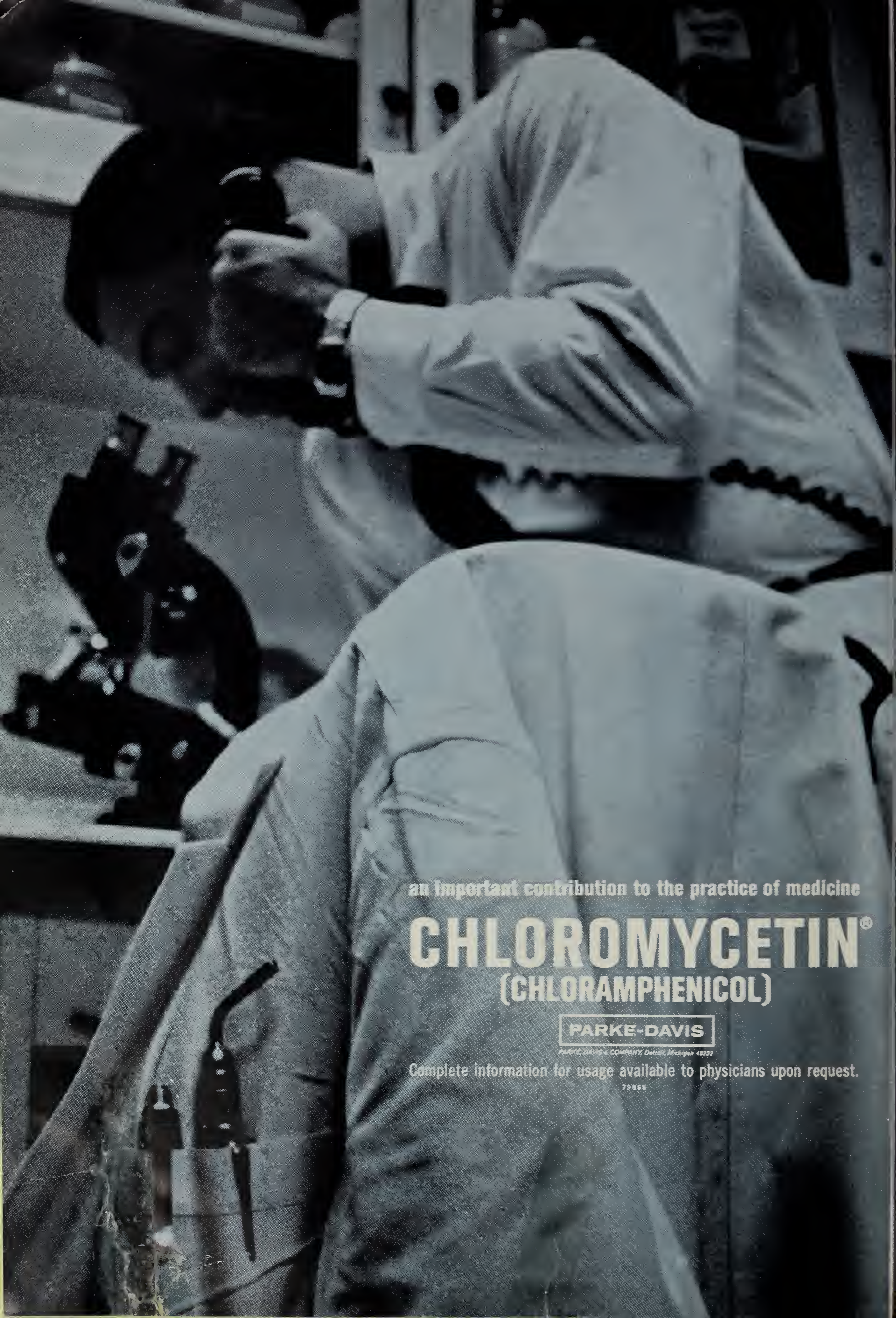

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at Merck Sharp & Dohme...

understanding... precedes development

The development of chlorothiazide and probenecid were events of major importance, but perhaps even more important for the future was the Renal Research Program by which they were developed. When Merck Sharp & Dohme organized this program in 1943, it was expressing in action some of its basic beliefs about research:

- Many problems connected with renal structure and function were still undefined or unsolved. The Renal Research Program would begin its basic research in some of these problem areas.
- From knowledge thus acquired might come clues to the development of new therapeutic agents of significant value to the physician.

For example, the Renal Research Program put fifteen years into this search before chlorothiazide became available. But because these years had first led to a greater understanding of basic problems, the desired criteria for chlorothiazide existed before the drug was developed.

Along with other research teams at Merck Sharp & Dohme, the Renal Research Program continues to add new understanding of basic problems—understanding which will lead to important new therapeutic agents.

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where today's theory is tomorrow's therapy

'Medicare' Position Statement Approved by MSMA Council

The Missouri State Medical Association has pledged its cooperation with government agencies in implementing PL 89-97 ("medicare"), but at the same time has made it clear that the Association will work to change and improve those provisions of the new law which are found to be objectionable. A policy statement relating to PL 89-97 was approved by the MSMA Council at its meeting on December 11 and 12.

The statement was proposed originally by Arthur W. Neilson, M.D., one of Missouri's delegates to the American Medical Association. It was approved by the Executive Committee and then submitted to the full Council for final action.

The official statement reads:

"The physician-members of the Missouri State Medical Association assure all patients that they will continue to receive the highest quality medical care possible under PL 89-97. The Association offers its assistance and cooperation to agencies of government, insurance carriers and institutional providers of health care in drafting mutually agreeable plans to assure continued high quality medical care for those persons covered under the new law. If in the future, however, it becomes apparent that any provision of PL 89-97 is not in the best interests of patients or of proven medical practices, the Association will campaign actively for remedial changes in the law or its administrative regulations.

"The Missouri State Medical Association pledges to work with the General Assembly of Missouri in implementing the Public Assistance Provisions of PL 89-97.

"The Association will also recommend to the State Legislature that any financial benefits accruing to county hospitals from federal matching funds under Title XIX of the Law be used for medical purposes and not diverted to other uses.

"And finally, let it be understood that the Missouri State Medical Association is not attempting to dictate to any individual physician the course of action which he may take in regards to providing medical care under PL 89-97. Each physician will have to decide this question for himself."

County Society News

FIRST DISTRICT

COUNCILOR
JOSEPH FISHER, M.D., ST. JOSEPH

Buchanan County Medical Society

For the tenth consecutive year the Buchanan County Medical Society and the St. Joseph Bar Association met jointly. The meeting was held in the Empire Room of Hotel Robidoux in St. Joseph and began with a social period and dinner. One hundred and five physicians, attorneys and their guests attended the session. Presidents of the two organizations presided jointly: Dr. Herbert C. Senne of the Medical Society and Charles S. Wilcox of the Bar Association. The speaker of the evening was Milton Helpern, M.D., Medical Examiner for the city of New York and Professor of Forensic Medicine of New York University School of Medicine. Dr. Helpern, one of the World's foremost forensic pathologists, discussed "Official Investigation of Sudden, Suspicious and Violent Death and Its Importance to the Community." Dr. Helpern's illustrated talk was most interesting and well received by his audience. Guests at the meeting included Dr. Charles B. Wheeler, Coroner of Jackson County, Mo., Mrs. Wheeler and local peace officers. Arrangements for the event were made by Charles Strop, III for the Bar Association, and Dr. Joe S. Gunter for the Medical Society. Dr. Thompson E. Potter, a former pupil, introduced Dr. Helpern.

Berwyn H. Moen, M.D., *Secretary*

Grand River Medical Society

Thirty-three members and four guests of the Grand River Medical Society and Auxiliary met in the Strand Hotel, Chillicothe, on the evening of November 11, 1965.

Dr. William Gaunt, Associate Professor of Medicine at the University of Missouri School of Medicine, presented the scientific program by giving a very interesting and well received discussion of "The Common Arthridities."

At the business meeting the Society voted to support Kansas City Blue Shield in actively seeking appointment as intermediary between government and physician and in assuming the responsibility of carrier of the medical-surgical portion of the "medicare" program.

Dr. William L. Fair of Chillicothe was elected the new mental health chairman of our Society.

Dr. Frank Zahrt of Princeton has announced that he is discontinuing his practice on December 31. He will accept an appointment with the Department of State and expects to be assigned to the Embassy at Algiers.

Albert D. Cross, M.D., *Secretary*

SIXTH DISTRICT

COUNCILOR
ROLLA B. WRAY, M.D., NEVADA

West Central Missouri Medical Society

The West Central Missouri Medical Society met at the Bee's Colony in El Dorado Springs on November 4, 1965. There was the customary social hour and dinner preceding the meeting. Total attendance at the meeting was 22.

The scientific portion of the program was an excellent presentation by Dr. James Brown, Springfield surgeon, who discussed "Surgery of Vascular Occlusion." The presentation was well illustrated. The points in diagnosis and treatment were well presented. All members present profited by this presentation.

Following the scientific portion the business was called to order by Dr. Robert Brownsbarger, Vice President. Minutes of the previous meeting were read and approved. Correspondence received by the Secretary was presented. The request by the Ten-County Medical Directory for additional biographical information was presented and referred to the members in each county of the Society for completion. Dr. Rolla Wray, Sixth District Councilor, presented a request from the Council for the opinion of the members of the Society as to their preference in who should act as carriers for Part B of the new "medicare" law. This matter was discussed by several members. On motion of Dr. Magee and seconded by Dr. Pearse, the Society voted its preference for carrier under Part B to be the St. Louis Blue Shield Plan. Dr. Wray then presented the request of the Council of MSMA that each component society in a councilor district appoint a member of that society to act as a liaison agent between the Society and the Councilor. On motion of Dr. Luter and seconded by Dr. Magee, the Society voted that the liaison agent for this group would be Dr. Roy Y. Pearse, Jr., Nevada.

In reports of committees, Dr. Paul Barone reporting for the Mental Health Committee, commented upon the recent program at State Hospital No. 3. This program concerned the treatment of the alcoholic by the general practitioner. Dr. Pearse reporting for the Program Committee announced that the December meeting would be held at the Country Club in Nevada, on December 9, 1965. There being no further business, the meeting was adjourned.

Roy W. Pearse, Jr., M.D., *Secretary*

In Memoriam

Musick, James D., M.D., Springfield, a graduate of American Medical College, 1907; member of Greene County Medical Society; aged 84; died October 22, 1965.

Smith, Clifton, M.D., St. Joseph, a graduate of St. Louis University, 1930; member of Buchanan County Medical Society; aged 71; died October 31, 1965.

Bock, Lux H., M.D., Clayton, a graduate of Washington University, 1915; member of St. Louis Medical Society; aged 74; died November 2, 1965.

Smith, Frank J., St. Louis, a graduate of St. Louis University, 1912; member of St. Louis Medical Society; aged 81; died November 4, 1965.

Heideman, Alvah G., M.D., St. Louis, a graduate of Washington University, 1926; member of St. Louis Medical Society; aged 64; died October 26, 1965.

'Medicare': Panacea, It Is Not

Health Care

by
JAMES C. COPE, M.D.*

When President Johnson signed the "Medicare" bill, it became the most costly and, according to one Senator, the "most significant" social welfare plan ever adopted in this country. There can be little doubt on either point. The cost will be $6.5 billion for the first year covering 90% of the health needs of 19-million senior citizens. In spite of this vast expenditure, none of the individuals covered will be adequately protected against a catastrophic illness. Neither does the plan guarantee medical service or hospitalization. Without knowing what services are covered and making provisions for those which are not, a senior citizen could find himself in serious financial difficulties.

There are two parts to Public Law 89-97 ("Medicare"), the basic provision and the optional major medical insurance plan.

The basic provision includes everyone over 65 years of age and goes into effect July 1, 1966. Coverages consists of:

1. Up to 90 days hospitalization in any single "spell of illness." The first $40.00 of indebtedness is paid by the patient, and thereafter the total cost of hospitalization up to 60 days is paid by the government. An additional 30 days, from 60 to a total of 90, are available but the recipient must pay $10.00 a day for these benefits. A "spell of illness" is defined as a period starting with the first day of hospitalization and continuing until 60 consecutive days have elapsed after the patient has left the hospital or nursing home. Only then is the patient eligible for additional benefits.

2. One hundred days nursing home care provided. The first 20 days are completely covered, but the last 80 must be paid for at the rate of $5.00 a day. Nursing home services are available only in nursing homes that are approved by the Department of Health, Education, and Welfare and admission to the nursing home must have been recommended by a physician. (This goes into effect January 1, 1967.)

(Continued on page 14)

Drugs

by
C. JOSEPH STETLER, LL.M.†

If a doctor prescribes Broom Tops or Guarumbo, or if he prescribes a Black Widow Spider for an elderly patient in a hospital or nursing home after July 1, 1966, the new "Medicare" law will pay for the prescription.

But chances are that payment will not be authorized if he prescribes any of three pain relievers which contain narcotics or any of eight pain relievers without narcotics; if he prescribes any of seven antibiotic mixtures which treat several conditions at once, or any of nine cold preparations or any of a like number of cough preparations.

There are dozens of other medicines which probably won't be approved as reimbursable items, all because of the way the law is written. Yet these pain relievers and antibiotics and cold and cough preparations are among the 200 most frequently prescribed drugs on today's market.

The probable result of all this is that many elderly patients will be surprised and dismayed, upon leaving a hospital or nursing home after "Medicare" becomes operative on July 1, 1966, to learn that they will have to pay personally for some of the drugs prescribed by their physician while under such care.

How did Congress manage to create such a situation?

The House of Representatives passed the Medicare bill on April 8, 1965. The House Ways and Means Committee held no public hearings during 1965. The Senate Finance Committee, however, did open its hearings to public testimony and thereafter approved numerous amendments to the bill as passed by the House. The House measure identified the "drugs and biologicals" which would be paid for by the U. S. government as those listed in the *United States Pharmacopeia*, the *National Formulary*, *New Drugs*, or *Accepted Dental Remedies*. These are all books of standards or association sponsored references which describe certain drugs and medical preparations. The House also provided that any hos-

(Continued on page 16)

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* Doctor Cope is in the private practice of urology in Columbia and serves as Councilor for the 5th District of the Missouri State Medical Association.

† Mr. Stetler is President of the Pharmaceutical Manufacturers Association, Washington, D. C. He formerly served as General Counsel of the American Medical Association.

3. Up to 100 post-hospital visits in the patient's home by nurses or technicians. (With the present shortage of trained health personnel, including nurses, physical therapists and occupational therapists, these provisions are pretty much theoretical, since there is no one available to provide them.)

4. The patient may go to an approved hospital-connected clinic for diagnostic service. The first $20.00 must be paid for by the recipient and 20% of additional expenses must also be paid for by the recipient.

5. Up to 60 days of psychiatric hospitalization during a single spell of illness, but there is a lifetime total of 190 days.

An optional feature of the "Medicare" plan is the supplementary major medical insurance provision. Under this provision each insured person pays $3.00 a month and this $3.00 is matched by the government from the general fund. Social Security recipients may direct that the $3.00 be deducted from their monthly check. The recipient also pays $50.00 annually toward the cost of any services that he receives and must pay 20% of any charges that are incurred thereafter. Specifically this portion of the plan provides for:

1. Physicians and surgeons services, whether furnished in the hospital, office or home.
2. Up to 100 home health visits each year.
3. Diagnostic tests such as X-rays, laboratory work and electrocardiograms.
4. Surgical dressings, splints, casts, braces, artificial limbs and rental items such as wheel chairs and hospital beds that might be used for home care.
5. Certain ambulance service.

This portion of the bill requires that the recipient make application for the services and pay premiums of $3.00 a month. Before any of these services become available on the 20% basis, the patient must show that he has expended $50.00 for services which are covered under this portion of the program.

However generous this plan may be, there are certain situations and combinations of circumstances that could spell financial ruin for a family, even though covered under the program.

Example: As the result of an automobile accident, a 66-year-old man and his 65-year-old wife receive multiple injuries and fractures which require five months of hospitalization. For each of them the cost would be $40.00, the deductible amount for 60 days hospitalization. Following this there would be a cost of $300.00 for the 30 day period after the first 60 days have been used and before benefits stop entirely. Thereafter they will be expected to pay for any additional hospital stay at the regular rate. At $30.00 a day this would amount to $1,800.00 each for the fourth and fifth month. If each had doctor bills of $1,000.00, there would be an additional cost of $50.00 for the deductible portion and 20% of the remainder, or $190.00. The cost would be:

	Single	*Both*
Hospitalization for 60 days	$ 40.00	$ 80.00
Hospitalization for 60 to 90 days	300.00	600.00
Hospitalization for 90 to 150 days	1,800.00	3,600.00
Physician deductible	50.00	100.00
Physician 20%	190.00	380.00
	$2,380.00	$4,760.00

A bill of this size can look mighty big to a person whose only resource is retirement income!

In another case a man enters the hospital for a cancer operation on May 1. The surgery is successful, and he leaves the hospital July 29. On August 4 he falls and breaks his hip. He is not covered because he will not be eligible for another "spell of illness" until he has been out of the hospital for 60 days. All hospital benefits terminate at the end of 90 days and thereafter the recipient is totally responsible for his own care. In addition, he must be out of the hospital or nursing home for 60 days before he is eligible for another admission.

"Medicare" does not provide insurance against financial disaster. To prevent financial disaster, catastrophe insurance must be carried which will start its protection where the "Medicare" program stops.

PL 89-97 does not provide "free" hospital care for those over 65 or "free" medical care for those who have enrolled for the optional benefits.

Example: A man finds that he has a small growth on his hand and decides to see his physician about it. The physician tells him that it should be removed and that this can be done in the office. If the man submits to this procedure and the physician sends him a bill for $25.00, the patient receives no benefits under the optional plan unless he has in that calendar year already paid $50.00 in doctor's bills and can certify to this fact. Under the optional plan, the patient must pay $50.00 in physician's bills or for other health services before he can expect any remuneration under the plan. Should this patient feel that he can get greater benefits by going to the hospital instead of having the procedure done in the doctor's office, he will only compound his difficulties. Such a procedure would require admission to the hospital, a trip to the operating room and certain laboratory work which is required for hospital admission. The patient would be required to pay $40.00 of the hospital bill before getting any benefits, as well as being responsible for the physician's fee of $25.00.

In any illness the patient must pay $40.00 toward his hospitalization before receiving any benefits under the basic plan and he must spend $50.00 for physician fees or other health services before he can get any benefits under the optional plan.

The "Medicare" plan will not help with trivial illnesses or accidents until certain criteria have been met.

The "Medicare" law does not provide long term nursing home care.

Example: A family is taking care of an elderly grandmother who is eligible for benefits under "Medicare." They decide that they can no longer take care of her adequately at home and should have her moved to a nursing home. They make these arrangements, then request benefits under the "Medicare" program, and are surprised to find that there are no benefits provided for such cases. To be eligible for nursing home care under this program, the patient must be transferred to the nursing home *from a hospital* by physician's order and must be under the care of the physician while in the nursing home. Even when these requirements are met, only 20 days of cost-free care are provided.

Nursing home benefits under the bill are merely an extension of hospital treatment and do not provide custodial care.

"Medicare" does not provide for long term care in a mental institution.

Example: A woman becomes disturbed at home and is hospitalized for psychiatric evaluation. As a result of this evaluation, it is decided that she needs long term care and is sent to a psychiatric hospital. "Medicare" will pay for 60 days of psychiatric care as a result of a single illness, but there is a lifetime limit of 190 days in psychiatric hospitals regardless of how many admissions the patient has to the hospital. Once the patient has used the 190 days, she will no longer be able to secure benefits.

Since many psychiatric disorders are of a chronic nature and last for the lifetime of the individual, it is possible that "Medicare" can be of very little help in these cases.

"Medicare" does not guarantee hospitalization. For a patient to be hospitalized, it is necessary for him to find a doctor who is willing to certify that he needs hospital care and is willing to arrange for his admission. It is expected that there will be an increasing demand for hospital beds as a result of this legislation, and therefore an already tight situation may become worse. There is no guarantee of hospitalization implied in the legislation, and hospital beds will be used on a first-come-first-served basis.

Each hospital which is approved under the program must have some arrangement for utilization review. Regulations covering the organization and operation of utilization committees have not been completed at this writing. Obviously, however, a hospital whose beds are already full will not be able to admit additional "Medicare" patients regardless of their bureaucratic eligibility or their medical needs.

"Medicare" does not guarantee hospital or physician services, and benefits under "Medicare" are useful only if health services are available.

"Medicare" does not quarantee a free choice of either hospital or physician.

Example: A physician in a small community has been operating his own hospital. After inspection, the health services supplied by this proprietary hospital are found to be inadequate, and the institution fails to win approval by HEW. No benefits will be allowed any patient treated in this hospital. Even though considerable inconvenience would be experienced by going to a hospital in another community, benefits will not be paid for hospitalization in a disapproved hospital.

The American Medical Association has informed its members that participation in "Medicare" is an individual matter and there is no compulsion from either the AMA or the government for physicians to take part in the program. It is possible that some physicians will be willing to take care of patients over 65 on a private basis, but will be unwilling to make out the forms and do the paper work that undoubtedly will be required if these patients are to be cared for under the "Medicare" program.

Before expecting benefits from the "Medicare" program, be sure that the hospital to which you are admitted is approved by HEW and that your physician is participating in the program!

This present status of the "Medicare" law will undoubtedly be changed by every Congress that convenes for the next few years. Recipients therefore should keep themselves informed of changes in the law and keep their insurance programs keyed to it.

It is mandatory that a catastrophic medical insurance policy be carried in addition to the "Medicare" benefits. Only if such a policy is carried can a recipient be sure that he will not be faced with financial destruction because of a long term illness or accident. Since most insurance plans depend on the younger people in the plan to carry those who are past 65, the "Medicare" program should make catastrophic insurance for everyone and ordinary health insurance for those below 65 considerably less expensive than it has been in the past. "Medicare" is a big step toward total health care, but it is vitally important to understand that it does not provide complete care. Total security from a health and hospitalization standpoint can only be found by additional insurance from private sources.

'Medicare': Drugs (Cont'd)

pital which had a pharmacy and drug therapeutics committee could approve for reimbursement any drug not listed in the authorized reference books.

In testimony before the Senate Committee, the Pharmaceutical Manufacturers Association (PMA) showed that only 55%—or 109—of the 200 drugs most frequently prescribed in 1964 were listed in the reference books mentioned in the House-passed bill. Of the 91 not listed, 80 were "combination" drugs, drugs which contain more than one medicinal ingredient. The reference works cited, as a matter of established policy, list practically no combination products although they do list some or all of the ingredients.

This was ambiguous.

In PMA's opinion it meant that if a doctor wished to give a patient a combination product he would have to prescribe each of the ingredients separately in order for the government to pay. A patient, therefore, might take five pills, capsules or injections where only one—containing a combination of the five—would suffice.

PMA's calculations indicated that the cost of medications, if prescribed as single products rather than combinations, could be increased as much as 551%; and the U. S. Government, or more accurately, the taxpayers, would have to pay the bill.

PMA also pointed out what it considered as another weakness in the House bill. It quoted from a report entitled *Mirror to Hospital Pharmacy,* published in 1964 and based on a study sponsored by the U. S. Public Health Service and conducted by the American Society of Hospital Pharmacists. This report struck directly at that phase of the House bill which stipulated that a hospital pharmacy and drug therapeutics committee could approve for reimbursement any drug not included in the authorized reference books.

The study showed that of the nation's 7,004 hospitals, no more than 1,085 had such committees which met at least once a year. It indicated that in 85% of the hospitals, there was no committee which could effectively take advantage of whatever leeway the House bill might provide for the selection of drugs.

The Senate Committee agreed that clarification was needed. It amended the House bill to include combination drugs "if the principal ingredient or ingredients" were listed in the authorized reference books. The Senate approved this version of the bill. The Senate also included as an additional official compendium, the *Homoeopathic Pharmacopoeia,* which lists a large number of unusual items, such as Black Widow Spider, Broom Tops and Guarumbo.

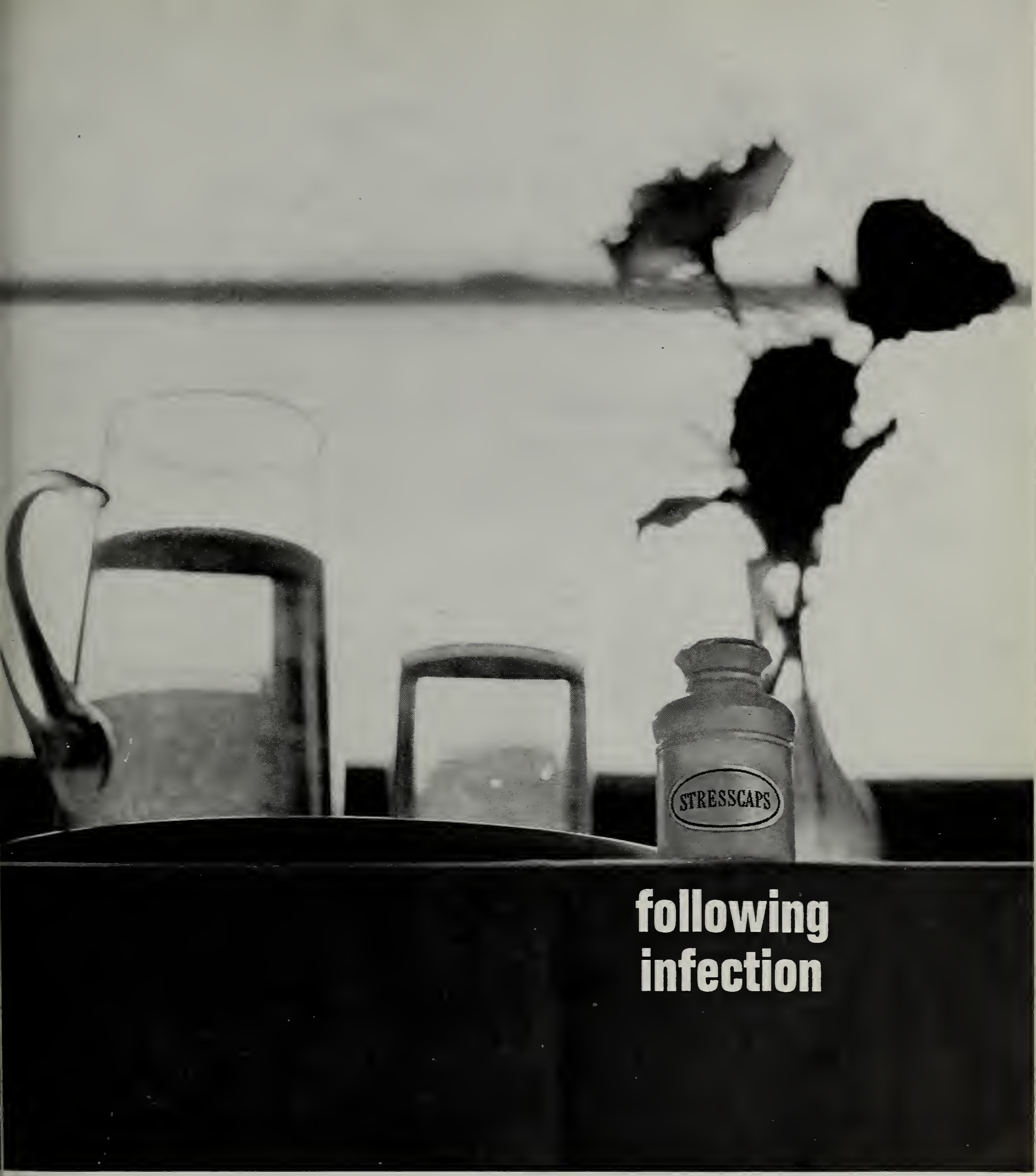
Then the bill, as approved by the Senate, went to a conference committee composed of members of the Senate and members of the House of Representatives. This committee thrashed out the differences between the two versions of the bill.

The measure which emerged retained the *Homoeopathic Pharmacopoeia.* It omitted the Senate-proposed amendment, which would have included combination products.

Both the Senate and the House of Representatives approved the compromise measure and it was signed into law by President Johnson on July 30, 1965.

This law must now be interpreted by the Secretary of the Department of Health, Education and Welfare. It is possible that the regulations will be written to include some of the combination drugs which were not specifically included in the bill as enacted.

If HEW adheres to a strict interpretation, many useful drugs will not be reimbursable under Medicare. Our elder citizens should know of this possibility so they will not expect that all drugs prescribed in a hospital or nursing home will be paid for beginning next July 1.



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Preliminary Program

108th Annual Session

MISSOURI STATE MEDICAL ASSOCIATION

Muehlebach Hotel, Kansas City **March 27-30, 1966**

Sunday, March 27

12:00 NOON Registration of Delegates.
1:30 PM House of Delegates Meeting, opening session.
3:00 PM Reference Committee meetings.

Monday, March 28

8:30 AM Welcome—Paul R. Whitener, M.D., President Missouri State Medical Association.
8:35 AM *What's New . . .*
Moderator: Philip Byers, M.D., Kansas City.
  1. . . . *in Kidney Disease?*, John Arnold, M.D., Kansas City.
  2. . . . *in Ob-Gyn?*, Brooks Ranney, M.D., Yankton, S. D.
  3. . . . *in Radiology?*, William E. Powers, M.D., St. Louis.
  4. . . . *in Anesthesia?*, Kenneth K. Keown, M.D., Columbia.
10:00 AM Intermission to view exhibits.
10:30 AM *Convulsive Disorders in Childhood.*
Moderator: Peter G. Danis, M.D., St. Louis.
  1. *The EEG as a Diagnostic Tool in the Infant and Child,* J. L. O'Leary, M.D., St. Louis.
  2. *Convulsions in the Infant and Child—Chemotherapeutic Control,* Joyce E. Devine, M.D., St. Louis.
  3. *Organic Retardation, Behavior and Learning Problems of the Child—Differential Diagnosis, Prognosis and Avenues of Treatment,* Clement E. Brooke, M.D., Columbia.
10:30 AM *Management of Pain.*
Moderator: Robert Felix, M.D., St. Louis.
  1. *Pharmacological Agents for Pain,* Hugh S. Mathewson, M.D., Kansas City.
  2. *Migraine and Other Vascular Headaches,* Stewart Wolf, M.D., Oklahoma City, Okla.
  3. *Neurosurgeon Looks at Pain,* Leonard T. Furlow, M.D., St. Louis.
12:00 NOON Committee on Maternal Welfare Luncheon.
Fifty-Year Club Luncheon.
General Luncheon: *The Whole Man,* Rev. Dr. Paul B. McCleave, AMA Department of Medicine and Religion, Chicago, Ill.
2:00 PM *Management of Arthritis.*
Moderator: Ralph A. Kinsella, M.D., St. Louis.
  1. *Treatment of Rheumatoid Arthritis,* Howard F. Polley, M.D., Rochester, Minn.
  2. *Newer Concepts of the Pathogenesis of Acute Gouty Arthritis,* J. E. Seegmiller, M.D., Bethesda, Md.
  3. *New Findings on the Pathogenesis of Rheumatoid Arthritis,* Joseph L. Hollander, M.D., Philadelphia, Pa.
2:00 PM *Surgical Session.*
Moderator: Wilbur P. McDonald, M.D., St. Joseph, President, Missouri Surgical Society.
  1. *Endocrine Prophylaxis and Early Diagnosis of Breast Cancer,* Henry P. Leis, Jr., M.D., New York, N. Y. (Sponsored by Missouri Surgical Society.)
  2. *Treatment of Large Thermo Burns,* William F. Monafo, M.D., St. Louis.
  3. *Pre and Post Operative Prophylactic Antibiotics,* William Cole, M.D., St. Louis.
3:30 PM Intermission to view exhibits.
4:00 PM House of Delegates meeting, second session.
5:30 PM Reference Committee Meetings.

Tuesday, March 29

8:00 AM Registration.
8:30 AM *The Management of Common Eye Disorders.*
(Sponsored by the Missouri Ophthalmological Society.) Topics and Participants to be announced.

8:30 AM *Current Concepts in Thyroid Disease.*
Moderator: Thomas F. Frawley, M.D., St. Louis.
1. *Thyroid Physiology and the Development of Thyroid Disease,* William W. Engstrom, M.D., Milwaukee, Wis.
2. *Subacute and Chronic Thyroiditis,* J. Earle White, M.D., Columbia.
3. *Hyperthyroidism and Exophthalmos,* Thomas F. Frawley, M.D., St. Louis.

8:30 AM *What's New in Reducing Neo-Natal Mortality?*
Moderator: Ned W. Smull, M.D., Kansas City.
1. *Bleeding Problems of the New-Born Infant and Prevention of Hemolytic Diseases in Utero,* Arthur E. McElfresh, M.D., St. Louis.
2. *Hypoglycemia and Acid Base Upset,* Robert Jackson, M.D., Columbia.
3. *Respiratory Distress as a Cause of Neo-Natal Mortality,* Herbert C. Miller, M.D., Kansas City, Kan.

10:00 AM Intermission to view exhibits.

10:30 AM *Scientific Symposium.*
Sponsored by the Missouri University Medical Alumni Association with featured presentation by winner of the 1966 Alumni Award. Additional participants to be announced.

12:00 NOON Missouri University Alumni Luncheon.

1:45 PM *Medicare.*
Moderator: Avery P. Rowlette, M.D., Moberly.
1. *Plan of Operation* (Representative from Department of Health, Education and Welfare, Washington, D. C.—to be announced).
2. *How It Affects Missouri Welfare Program,* Proctor N. Carter, Director, Division of Welfare, Jefferson City.
3. *Influence on Private Insurance,* participant to be announced.

1:45 PM *Care of the Traumatized Patient.*
Moderator: Richard E. Lord, M.D., St. Louis.
(Sponsored by MSMA Committee on Trauma.) Topics and participants to be announced.

3:00 PM Intermission to view exhibits.

3:30 PM *The Management of Cervical Carcinoma In Situ—The Follow-Up of a Positive Pap Smear.*
(Sponsored by the Missouri Division, American Cancer Society.) Topics and participants to be announced.

3:30 PM *Use and Abuse of Transfusions, Antibiotics and Steroids.*
Moderator: Harold Lurie, M.D., Springfield.
1. *Use and Abuse of Transfusions,* Virgil Loeb, M.D., St. Louis.
2. *Choice and Dose of Antibiotics,* R. William Burmeister, M.D., St. Louis.
3. *Use and Abuse of Steroids,* Michael M. Karl, M.D., St. Louis.

5:00 PM Intermission to view exhibits.

7:30 PM Banquet honoring Past Presidents of MSMA.
Speaker: The Honorable Warren E. Hearnes, Governor of the State of Missouri.

Wednesday, March 30

7:30 AM House of Delegates meeting, breakfast and final session.

THE MISSOURI SOCIETY OF MEDICAL TECHNOLOGISTS

1966 Annual Meeting

Muehlebach Hotel, Kansas City **March 27-30**

Sunday, March 27

Research Hospital
Morning—Business meeting, MSMT
Afternoon—Business meeting, MSMT
Evening—Business Meeting, MABB

Monday, March 28

Muehlebach Hotel
Morning—Program of the Missouri Association of Blood Banks
Afternoon—LDH and Isoenzymes
Panel—Automation and the Schools of Med. Tech.
Serology Workshop

Tuesday, March 29

Morning—Red Cell Enzyme Deficiencies
Partial Thromboplastin and Lee and White Clotting Time
Fungus
Workshop—Standardization of Spectrophotometers

Afternoon
Histochemistry
Anaerobic Bacteriology
Medicare and the Laboratory

Wednesday, March 30

Morning—Panel—Phenylketonuria, the disease, methods of determination and the Missouri Law.

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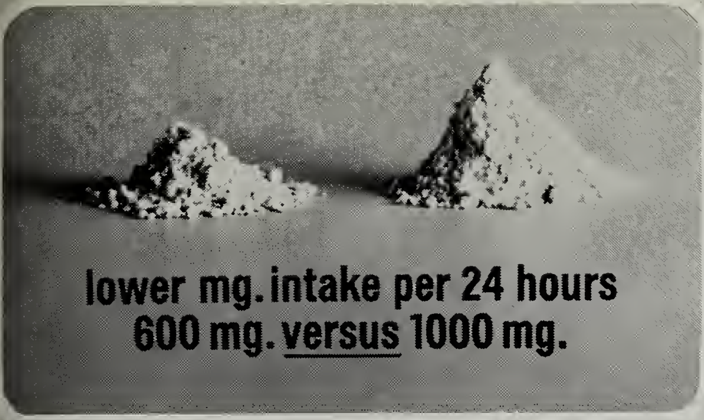

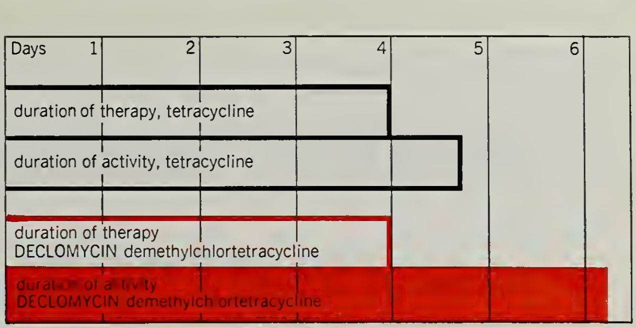

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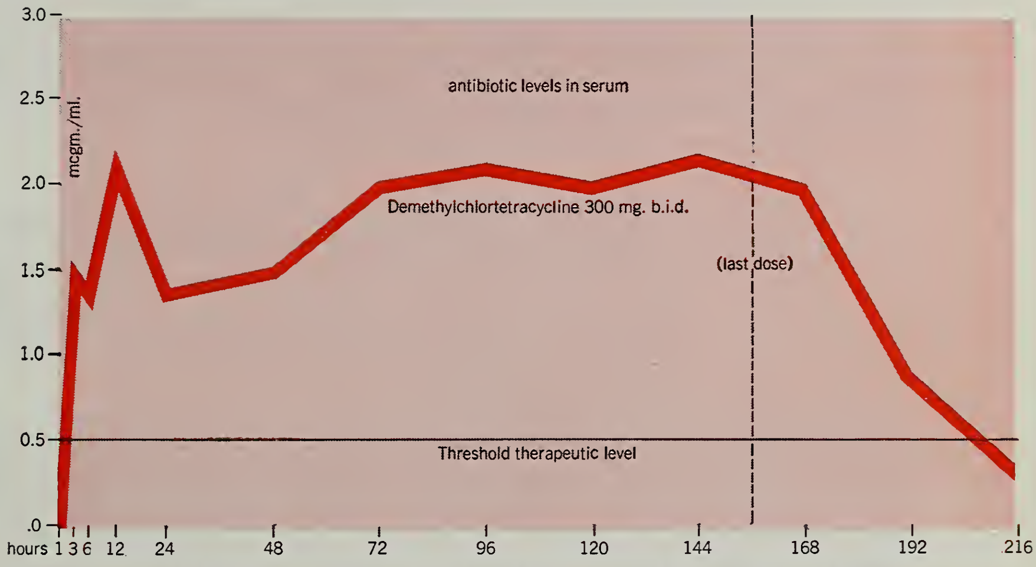

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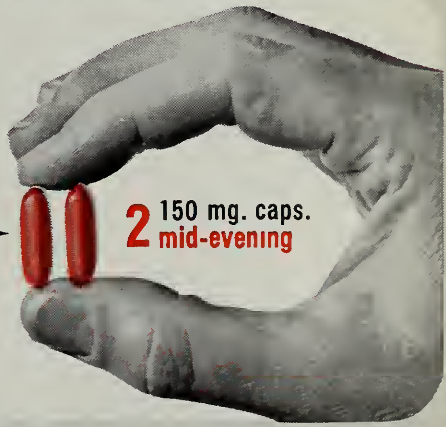

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Notes of interest from Here .... and There

Joe A. Zimmerman, M.D., of Kennett has been appointed to the Missouri Mental Retardation and Mental Health Advisory Council. The appointment was made by Gov. Warren E. Hearnes and confirmed by the Senate. . . . **Carl D. Siegel**, M.D., has discontinued his private practice in Sedalia to accept a post with the U. S. Public Health Service, Region 6 office in Kansas City. . . . **John A. Buesseler**, M.D., of Columbia recently was awarded his "jump wings" at the Army's airborne training center, Fort Benning, Georgia. Col. Buesseler is commander of the 5503rd Army Reserve Hospital, as well as professor of ophthalmology and chief of eye surgery at the M.U. Medical Center.

Visitors to the recent World's Fair had more headaches and aching muscles in 1965 than in 1964, if their demand for aspirin is any criterion. The Bayer Company, which supplied both adult and children's aspirin in professional packets for medical aid stations, reports that more than 600,000 aspirin tablets were purchased and dispensed during the last year of the Fair, compared with some 500,000 the first year.

Smith Kline & French Laboratories has arranged with the nation's principal salvage companies for the return of SKF products damaged by fire or other mishap or acquired by salvage companies as a result of bankruptcies. The company said it adopted the policy so that possibly damaged SKF products will not be distributed and also to help keep products from unintentionally getting into unauthorized drug distribution channels. Salvage companies which are co-operating in the program account for about 95% of the salvage of drugs in this country.

Six out of seven patients with urinary tract infections classed as difficult to control were cleared of their infections as the result of treatment with the new antibacterial agent NegGram (nalidixic acid), a South African investigator states in *Medical Proceedings* (11:306, 1965). The drug produced sterile urine in four out of five patients with *Proteus*-caused infections, reports Dr. C. D. Kisner of Johannesburg. Both cases of urinary tract infection caused by *Pyocyaneus* were cured.

The possibility of a speedy test for the diagnosis of active tuberculosis is advanced in a paper in the November issue of *The American Review of Respiratory Diseases* (Vol. 92, No. 5), journal of the American Thoracic Society, medical section of the National Tuberculosis Association. The tool is a tuberculin test that causes a relatively rapid reaction in persons with tuberculosis.

Electron microscope studies of tissue cultures of tumor cells taken from an American lymphoma patient have revealed virus particles structurally identical to those previously reported seen in long-term cultures of a common African lymphoma, according to Public Health Service scientists of the National Cancer Institute. This similarity between a cancer occurring in a 27-year-old white American female and the African childhood cancer known as Burkitt's lymphoma is reported in the November issue of the *Journal of the National Cancer Institute* by Drs. Gregory O'Conor and Alan Rabson of the Institute's Pathologic Anatomy Branch.

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G. KEITH KENNARD, M.D., RICHARD A. TWYMAN, M.D. *and*
RAYMOND B. ANDERSON, M.D., *Kansas City*

Mesenteric Arterial Occlusion in the Newborn

Case Reports

THE OCCURRENCE OF ANY TYPE of mesenteric vascular occlusion in infants and children is rare. Reviews of the literature with reports of personal cases were published by Ratner and Swenson in 1960,[1] and by DeMuth in 1962.[2] Together, these reports list a total of 31 such cases of all types occurring in infants or children under 15 years of age. We have been able to find only one case reported subsequent to DeMuth's paper.[3]

The authors have had personal experience with two cases of mesenteric arterial thrombosis in newborn infants. The reports mentioned above include ten cases of mesenteric vascular occlusion, either arterial or venous, which may be considered to have occurred during the neonatal period. An analysis of these ten cases and a report of our own two cases constitute the basis for this paper.

CASE REPORTS

Case # 1: Infant male, born 6:34 AM, April 24, 1953. Infant weighed 6 lb. at birth and was the product of a full term pregnancy and spontaneous delivery. He took water well at 6 PM and 10 PM the first day. On April 25 he took breast feedings well and passed two meconium stools during the day. Late that evening he expectorated large amounts of green mucus. In the early morning of April 26 the infant was noted to be listless, did not eat well and spit up brownish mucus. At 7:10 AM he was noted to be cyanotic and lethargic, and brown fluid was suctioned from the mouth and nose. At noon the infant's temperature was 102.4 F. rectally, and fresh blood was seen in the meconium. At 2:30 PM more fresh blood was seen in the meconium, and fresh blood and black material suctioned from the nasopharynx.

The following laboratory studies were obtained on April 26: Blood type O, Rh+; Hbg. 17.5 gm. or 114%; RBC 5.5 M/cu. mm.; WBC 14,300/cu. mm., 50% polys, 29% stabs, 15% lymphs. An X-ray of the abdomen revealed "gaseous distension of the stomach and small bowel due to obstructive ileus."

Exploratory laparotomy was begun at 4:30 PM, April 26. Nearly all of the small intestine was gangrenous and cyanotic. There was incomplete descent of the cecum, with some congenital adhesions causing fixation of the cecum to the right lateral parietal wall. These did not appear to cause any direct or indirect compression of the mesenteric vessels, but they were divided in the hope that this might result in some improvement to that portion of the intestine which was not already frankly gangrenous. No improvement was noted, however, and the abdomen was closed. The infant expired at 2:00 AM on April 27.

Autopsy was performed and revealed an antemortum clot in the superior mesenteric artery beginning at the point of origin of its third major branch, causing gangrene of small bowel from the level of upper jejunum through lower ileum. There was no evidence of volvulus or other gross abnormality of the mesentery or mesenteric vessels that would predispose to thrombosis. The heart and great vessels were normal without evidence of mural thrombi. The ductus arteriosus was very small and contained no thrombus. It was not possible on microscopic examination to state definitely whether the mesenter-

Mesenteric vascular occlusion of any type is rare in infants and children. Primary or idiopathic mesenteric arterial thrombosis in newborn infants is exceedingly rare. The authors report their experiences with two cases of the latter disorder, present a brief review of the literature and discuss the possible etiologic factors, diagnosis and treatment of such cases. Doctor Twyman is from the Departments of Surgery, Menorah Medical Center and St. Luke's Hospital; Doctor Kennard is from the Department of Surgery, St. Luke's; and Doctor Anderson is from the Department of Pediatrics, St. Luke's.

ic arterial thrombus was primary or embolic, except that, as noted, no source for an embolus was found.

Case # 2: Infant male, born January 10, 1964. Infant weighed 4 lb. 5½ oz. at birth and was the product of a full term pregnancy, delivered without trauma with the mother under saddle-block anesthesia. He passed normal meconium stools and appeared healthy until the morning of January 14 when he vomited his feedings. That evening a small amount of bright blood was noted on taking rectal temperature which was recorded as 100.6 F. He then passed several stools of cherry colored blood with a small amount of normal stool. He appeared tender to palpation of the abdomen, was pale and dehydrated. A nasogastric tube was passed, but no air or fluid aspirated. Transillumination of the abdomen revealed "step-ladder bowel." An injection of aqueous Penicillin and some fluids by 'clysis were administered. The following laboratory studies were obtained: bleeding time, one minute and seven seconds; clotting time, three minutes and 50 seconds; Hbg. 16.5 gm. or 107%; RBC 4.84 M/cu. mm.; WBC 4,000/cu. mm.; 62% polys, 24% stabs, 36% lymphs, 2% monos.

The infant was transferred to St. Luke's Hospital, Kansas City, in the early morning of January 15. Further history revealed that both parents and two siblings were in good health. Both siblings had also weighed approximately five pounds at birth. Two aunts were diabetic. There was no family history of bleeding tendencies. The mother had blood type O, Rh+. Further laboratory studies obtained after admission were as follows: Hbg. 17.6 gm., 112%; RBC 5.85 M/cu. mm.; Hematocrit 55 volume percent; WBC 3,500 (corrected to 2,900/cu. mm.); 42% polys, 30% bands, 34% lymphs, 24% monos; direct smear revealed 20 nucleated RBC/100 WBC, polychromato-philia and anisocytosis, "platelets adequate." A blood culture grew organisms of the Klebsiella group. The plasma appeared icteric, and serum bilirubin was 7.6, direct 3.2, indirect 4.4.

On admission, the infant appeared quite pale and listless and so critically ill as to be nearly moribund. He was so lethargic that intravenous cutdown for the administration of fluids was done with no local anesthesia and no reaction of pain. There was noted to be a peculiar cyanotic, almost ecchymotic, mottled discoloration of the skin over the abdomen. After the administration of some fluids per cutdown, his general condition improved somewhat by midday. An X-ray of the abdomen revealed a decreased amount of intestinal gas for this age, with a small amount of gas in the left colon. This was considered compatible with partial small intestinal obstruction, probably high in the intestinal tract. Some delay was encountered in obtaining completely compatible blood by crossmatching for transfusion, but exploratory laparotomy was begun at 4:30 PM on January 15, with preoperative diagnosis of strangulation obstruction probably due to malrotation volvulus of the midgut. On entering the peritoneal cavity, dark bloody fluid was encountered and the intestines were found to be gangrenous from a level of four inches below the ligament of Treitz to the hepatic flexure of the colon. Even the proximal few inches of jejunum appeared cyanotic, but the transverse and descending colon were viable. There was no evidence of malrotation, volvulus or congenital bands. An incidental Meckel's diverticulum was noted. The celiac plexus and the root of the mesentery were infiltrated with 1% Procaine, but no improvement in appearance of any of the involved bowel was seen. The abdomen was closed, and the baby expired at 6:20 AM on January 17.

Autopsy revealed a firm thrombus within the superior mesenteric artery beginning at about the level of its first major branch, with gangrenous intestine as described at surgery. There was no thrombus within the ductus arteriosus or elsewhere in the heart or great vessels, to suggest a source of embolization. The pathologist felt that it was not possible in this case to determine microscopically whether the thrombus was primary or embolic.

DISCUSSION

Mesenteric vascular occlusion may be classified in several ways. From the standpoint of pathologic anatomy, for instance, the thrombosis may be arterial, venous or a combination of both. The arterial type may be further divided into primary (thrombotic) or secondary (embolic) in origin. In another classification, emphasized by Carrucci,[4] the term "secondary" is synonomous with "strangulation type" as occurs in malrotation volvulus or strangulated hernia. This category has been excluded from consideration in our discussion. In view of our personal experience, we have selected for particular attention those reported cases of mesenteric arterial thromboses in newborn infants in which no etiologic factor could be found. As can be seen in Table 1, we have been able to find only three such cases reported prior to this writing.

Etiology:

Three classic groups of factors are mentioned

TABLE 1

Case No., Author, Ref., Year	*Day of Onset of Symptoms*	*Age at Death*	*Sex*	*Operation*	*Resection*	*Result*	*Autopsy*	*Arterial Thrombosis*	*Venous Thrombosis*	*Pathology*	*Predisposing or Underlying Cause*
Case # 1, Klob,[7] 1959	?	8 days	F	–	–	D	+	+		Occlusion of the branches of the S.M.A.	Thrombus in Ductus Arteriosus
Case # 2, Gruner,[8] 1904	?	5 weeks	?	–	–	D	+	+		Occlusion of the celiac artery	Thrombus in Ductus Arteriosus
Case # 3, Mersheimer,[9] 1953	6th	10 days	F	–	–	D	+	+		Extensive thrombosis of S.M.A. due to arteriosclerosis	"Generalized arteriosclerosis"
Case # 4, Rothschild,[10] 1953*	5th	6 days	M	+	+	D	+	+		Primary thrombosis in S.M.A. 1.5 cm in length	Unknown
Case # 5, Carucci,[4] 1953	Neonatal ?	?	?	+	+	D	+	?	?	Not stated specifically	Ramstedt pyloromyotomy prior to exploration and resection of gangrenous intestine
Case # 6, Ratner and Swenson,[1] 1960	2nd	3 days	M	+	+	D	+	? +	? +	Primary thrombosis in mesenteric blood vessels	Anomalous development of mesenteric blood vessels
Case # 7, Ratner and Swenson,[1] 1960*	5th	–	M	+	+	S	–	+		Gangrene of 20 cm of small bowel with arterial thrombosis in vessels supplying this segment	Unknown
Case # 8, Ratner and Swenson,[1] 1960	5th ?	6 days	M	+	–	D	+	–	+	Mesenteric venous occlusion with gangrene of small gut from pylorus to cecum	Bochdalek hernia repaired on 5th day of life. Intestine in hernia showed areas of hyperemia then, but was thought to be viable
Case # 9, DeMuth,[2] 1962*	4th	9 days	M	+	–	D	+	+		Primary thrombosis of superior mesenteric artery	Unknown
Case # 10, Hoskova,[3] 1963	1st	4 days	M	+	+	D	+	–	+	Occlusion of IVC to above renal veins; also portal and superior mesenteric veins	Unknown
Case # 11, Kennard *et al.* See Text 1953*	2nd	3 days	M	+	–	D	+	+		Primary thrombosis in S.M.A.	Unknown
Case # 12, Kennard *et al.* See Text 1964*	4th	7 days	M	+	–	D	+	+		Primary thrombosis in S.M.A.	Unknown

* Primary arterial thrombosis, etiology unknown.

in texts of pathology as predisposing to thrombus formation. These are: (a) Factors leading to decreased rate of blood flow, (b) Factors causing changes in the lining of blood vessels and (c) Changes in the components of the blood itself. On critical analysis of the 12 cases listed in the Table, a probable or possible predisposing factor may be inferred in six cases. By this we mean that anatomical factors causing change in blood flow and leading to thrombosis, such as patent ductus arteriosus or anomalous development of mesenteric vessels, were discovered at autopsy in three cases. A fourth infant showed obvious changes in the vessel walls described as "generalized arteriosclerosis." Two infants developed mesenteric vascular occlusion following abdominal surgical procedures for other conditions, which at least implies that all three factors predisposing to thrombosis could have been functioning. Analysis of the remaining six cases, including our two patients, reveals no evidence of the first two factors. These cases, therefore, lend themselves to the speculation that some change in the blood components could be implicated. Unfortunately, only speculation is possible since no detailed studies of clotting factors were performed preoperatively on any of these infants. Of those laboratory reports which are listed, practically all were obtained after the onset of symptoms and comparison of these is not very helpful. Bleeding time, clotting time or coagulation time were reported in only three patients, and were within the normal range. There is an extensive literature on the subject of coagulation mechanisms in the newborn. However, practically all such investigations are oriented toward the problem of hemorrhagic manifestations, rather than the problem of hypercoagulability. The latter is obviously much less common in the neonatal period.

We should like to emphasize that it is not our contention that these six infants in whom the etiology of the thrombosis is listed as "unknown" represent instances of some derangement of clotting mechanisms. It would be especially difficult in the cases of arterial thrombosis to explain a predilection for primary thrombus formation solely within the branches of the superior mesenteric artery. From the data available, including complete autopsies by qualified pathologists, all that can be stated is that no anatomic abnormality, either gross or microscopic, could be found to account for the thrombotic process. So in the present state of our knowledge, the etiology can only be called "idiopathic."

Diagnosis:

DeMuth has emphasized the fact that correct preoperative diagnosis has seldom been made in cases of this sort occurring in children and infants. In fact, a very considerable delay in ascertaining that a surgical lesion existed was an outstanding finding in his review of such cases. In infants with arterial thrombosis, the clinical picture of severe illness develops comparatively rapidly. Yet, the findings which indicate urgent surgical intervention, such as melena and abdominal distension, are actually those of the advanced stages of the disease process when so much bowel has become gangrenous that resection may be out of the question. Laboratory studies are often of little help. A routine flat plate X-ray of the abdomen may reveal bowel distention or may show less than the usual amounts of gas as in our second case, and yet there may be extensive gangrene of the intestines present in either instance. Ratner and Swenson felt that radiographic study of the intestinal tract utilizing Urekon Sodium as a contrast medium was of considerable value in their cases.

Treatment:

It is generally accepted that surgery offers the only hope of survival for patients of any age who develop occlusion of the mesenteric vessels. In infants and children, mortality without surgery is uniformly 100%. Of the 12 newborn infants under consideration here, nine were surgically explored and four were considered to have so much gangrenous intestine that resection was not indicated. Of the five who did have bowel resection only one infant survived. (Case #7 of the Table). This one underwent resection of 20 cm. of midgut and was alive and well at three-year followup.

Most authors seem to feel that earlier operation would result in a higher salvage rate in these cases at any age. Thrombectomy or embolectomy is probably not feasible in newborns due to the minute caliber of the involved vessels. Splanchnic block with one of the local anesthetic agents, together with infiltration of the root of the mesentery, may improve viability of bowel which is cyanotic due to vasospasm but the vessels of which are not actually occluded by thrombus.[5] In most cases, however, resection of gangrenous intestine with anastomosis of remaining viable intestine is all that can be offered. An occasional patient may be able to survive surprisingly massive intestinal resection.[6]

(Continued on page 39)

LARRY E. MILLIKAN, M.D. *and*
JOHN F. LOWNEY, M.D., *Columbia*

The Auer Body: Significance in Early Diagnosis of Leukemia

Case Report

Report of a case and review of literature pointing to the importance of Auer bodies in making a diagnosis of Leukemia when other criteria are lacking. Literature relating to the origin and structure of these bodies is thoroughly reviewed. Doctor Millikan is a 1962 graduate of the University of Missouri Medical School and presently is in the Department of Medicine, Naval Air Station, Quonset Point, Rhode Island. Doctor Lowney is Assistant Professor of Medicine, University of Missouri Medical School.

THE AUER BODY has been a subject of interest with curiosity to hematologists since it was first described in 1906. These structures are considered to be found only in acute granulocytic and monocytic leukemia. The finding of Auer bodies in the cells of a patient with a hemolytic anemia, where marrow otherwise showed only erythroid hyperplasia, prompted a review of the literature. Due to this finding and the literature review, the patient's subsequent course from hemolytic anemia to pancytopenia to acute leukemia was suspected early. This prognostic and diagnostic use of Auer bodies stimulated the preparation of this report.

CASE REPORT

A 41-year-old white male had been well until the spring of 1961 when he noted increasing fatigue. On admission to his local hospital it was noted that he had a severe anemia, leukopenia and thrombocytopenia. This was accompanied by an increased reticulocyte count, 15 nucleated red blood cells in the peripheral smear, and an elevated indirect bilirubin. An examination of the bone marrow showed marked hyper-cellularity. Erythroid and myeloid hyperplasia were noted. In the white blood series there was an arrest of the myelocyte and progranulocyte levels. A few blast cells were noted, as were some early reticulum cells. Nuclear cytoplasmic asynchronism of the erythroid series was also noted. A number of the cells, including the blasts, promyelocytes and reticulum cells, contained rod-shaped slender bodies in the cytoplasm which were interpreted by some of the observers as being Auer bodies (Fig. 1). The marrow was observed by several competent hematologists and pathologists, who felt that it was not diagnostic of any particular condition. A diagnosis of hemolytic anemia with leukopenia and thrombocytopenia was made at that time. Because of the presence of Auer bodies in the marrow, however, a guarded prognosis was in odrer; and an underlying leukemia process was felt to be one of the most likely causes of the patient's present illness and laboratory findings.

The patient worked as an oil distributor and occasionally handled these products. He has also used various garden sprays and insecticides. He sprayed himself with a commercial repellant as a protection against chiggers six weeks prior to admission to the hospital. Two years previously, he had been operated on for a lumbar disc. Myelograms had been performed at that time.

He received prednisone, blood transfusions and supportive treatment, including Achromycin for a staphylococcal infection of the skin which he subsequently acquired.

He showed some symptomatic relief on the therapy, and was able to work except for short periods of time when he was in the hospital. He continued to have leukopenia, thrombocytopenia, nucleated red blood cells and a large number of monocytes in the peripheral blood. On December 15, 1961 blast type cells were noted in which the same slender, elongated bodies previously described in the marrow were

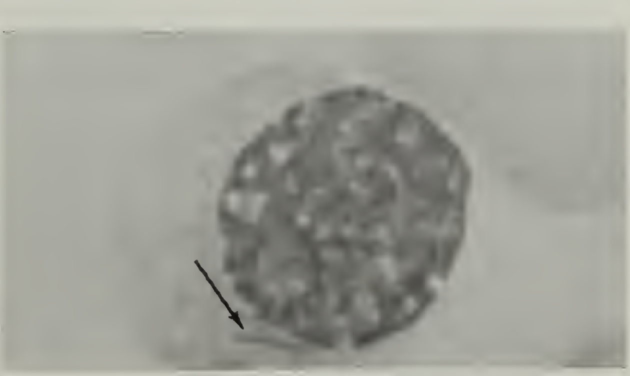

Fig. 1 Auer body in reticulum cell, bone marrow.

found in the cytoplasm of cells in the peripheral blood (Fig. 2). Following this finding, he was placed on 6-Mercaptopurine in doses of 100 to 200 mgm. daily for a period of four to six weeks. The patient continued to do quite well symptomatically, except for repeated severe epistaxis, until May 4, 1962 at which time his white blood count rose to a level of 50,000 and many blasts were noted. He was admitted to the hospital for repeat transfusions and began complaining of a headache and numbness of the left arm. This was followed rapidly by complete left hemiplegia, and the patient died within a matter of hours.

REVIEW OF LITERATURE

In 1905, McCrae[1] reported a series of five cases of acute leukemia followed at Osler's Clinic. In the peripheral smear of one of these patients were "large lymphocytes," some of which contained red staining bodies, some rod-like, some fragmentary and some granular. He considered them to be identical with intranuclear eosinophilic threads, previously described by Dorothy Reed,[2] in the cells of acute leukemia and stated that they would be dealt with more fully in a future article by Doctor John Auer.

Auer's article[3] appeared in the following year. In it he discussed the bodies as occurring in 6 to 10% of the "large lymphocytes" of the patient. He determined their size (1-6 μ by 0.2 μ) and suggested several possible etiologies for them, i.e., artifact, parasites and cell products. Because these bodies were found in vital and stained preparations, he felt that they were real and considered that most likely they were anabolic or catabolic products of cell metabolism. He could not rule out parasites, however, and even considered quartan malaria and Leishmania. (At that time the L.D. body of leishmaniasis had only recently been described and little was known of it.) In addition, the size of these rods and L.D. body were similar, and, perhaps more significant, the patient had lived for about a year in the Philippines in the recent past.

Ottenberg[4] in 1909 reported on three more cases of acute leukemia with Auer bodies, one of which was found to be a chloroma at necropsy. He helped disprove the possibility of parasitic or infectious etiology by attempting culture of the rods in bouillon, ascitic fluid, agar and sodium citrate and attempting transmission of the rods and/or leukemia by injecting fresh blood and splenic pulp into monkeys. All, without success. He agreed with Auer that the bodies were likely cell products and that they were in the same order as the granules, but he was careful to point out that he felt them to be distinct from the Charcot-Leyden crystals.

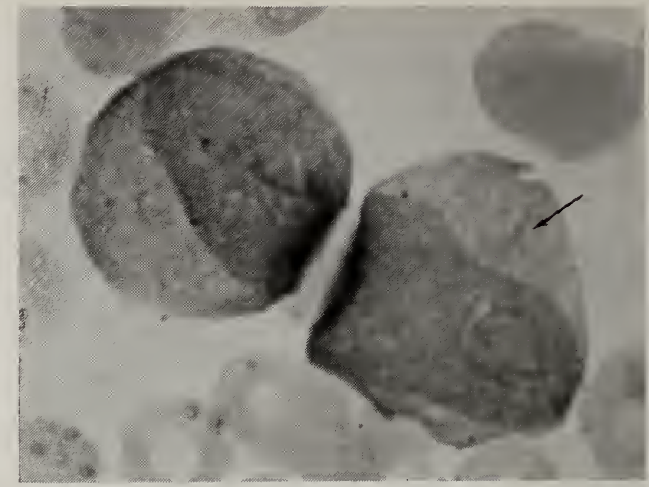

Fig. 2 Auer body in blast, peripheral blood.

While many others, including Naegili and Pappenheimer,[5] confirmed the presence of these rods in the immature cells of acute, presumably lymphatic leukemia, it was Roth[6] who first described them in the myeloblasts of a patient with miliary tuberculosis who had a clinical course resembling that of leukemia. Chosrojeff[7] reported them in an unequivocal case of myelogenous leukemia and suggested that the large lymphocytes in which they were previously reported were, in reality, myeloblasts. Other authors confirmed the presence of Auer bodies in acute myelogenous leukemia, including Goodwin[8] who was the first to observe the rods in the cells of all stages of myeloid maturation. He noted a decreasing incidence of these rods as the cells matured, finding the rods in up to 50% of blasts but in less than 1% of mature neutrophils. He felt, as did others, that the presence of Auer bodies was diagnostic of myelogenous leukemia.

The first description of these structures in monocytic leukemia was made two years prior to Goodwin's work by Sydenstricker and Phinizy.[9] At that time, however, Naegeli's postulate that monocytic leukemia was merely an abnormal type of myelosis and not a third type of leukemia was still held, and so the significance of this report was not appreciated. Shortly after Goodwin's work, however, Levine's[10] studies of monocytic and myelogenous leukemia appeared, conclusively establishing monocytic leukemia as a true third type. Many reports, including those of Hawksley[11] and Clough (quoted by Hawksley) appeared in the literature after Levine's work. At the present time, Auer bodies are considered to occur in both acute myelogenous and monocytic leukemia.

Rosenthal[12] is credited with having done in 1917 the first histochemical studies and he reported that the rods and granules were oxidase positive. Richter[13] confirmed the above work and differentiated them from Russell bodies, often found in the same cell, by means of the Gram stain which stained only the Russell bodies. In 1947 Kibler[14] stained the Auer rods with the Sudan Black Romanowsky technique and thereby demonstrated the presence of lipid, which he thought was probably phospholipid by differential extraction. He also noted that the larger rods had a sudanophilic core and that the lymphoid azurophilic granules and the Kurloff bodies of the guinea pig (to which the rods were likened) were sudanophilic by this technique.

The first extensive histochemical studies were done by Ackerman in 1950, at which time he found the enzymes peroxidase and oxidase to be present and lipase to be absent. He confirmed Kibler's work with lipid stains and used plasmal reaction to show the presence of an acetal lipid. Spectroscopic analysis confirmed the presence of the acetal lipid, or at least the carbonyl group, by absorption at 270 millimicrons. Differential solubility suggested that the lipid might perhaps be lecithin. Ackerman also demonstrated possible soluble proteins as a source of the azurophilia of the rods. He proved the presence of RNA with use of ribonuclease, and was unable to demonstrate DNA by the Bauer-Feulgen method. He interpreted the metachromasia of these bodies and the positive Periodic Acid Schiff reaction as an indication of possible mucopolysaccharides. He postulated that the origin of these bodies was secondary to the coacervation of the azurophilic granules in the young forms, influenced by the relative high acidity and quiescence of the cytoplasm in such cells.

Bessis, in his text,[16] reviews his work which was done at the same time as Ackerman. He supports many of Ackerman's findings, including those of presence of lipid, oxidase, peroxidase, RNA-nucleotides (by ultraviolet absorption at 2,600 angstroms) and cyclic amines (2,800 angstroms). He also notes that phase contrast microscopy revealed many more of these structures than are seen by the light microscope. Bessis attributed genesis of these structures to growth of the cytoplasmic granules.

Ito[17] did some of the first electron microscopy on these structures and reported the Auer body as having no internal ultrastructure, capsule or limiting membrane. He discovered many of these structures within or more closely associated with the endoplasmic reticulum and postulated that they were formed from the azur granulation in the endoplastic reticulum. Freeman[18] in 1960 did the most comprehensive electron microscopy studies to date on these structures. He found them to be coacervates of laminated, homogenous, crystalline placques with the long axis of the placques in the same plane as the long axis of the rod. The rods had an optical density the same as that of the cytoplasmic granulations, thus supporting the hypothesis of Ackerman. A recent report by Goldberg,[19] demonstrating the presence of acid phosphatase in the Auer body and also in the cytoplasmic granules, may be considered further evidence of the similarity of the azur granules and Auer bodies.

SUMMARY

A case is reported of a patient who presented with an acute hemolytic anemia. The presence of Auer bodies in reticulum cells was noted. Their importance in making a diagnosis of leukemia when other criteria are lacking is stressed. The literature concerning the Auer body and present concepts of their origin and structure is reviewed.

BIBLIOGRAPHY

1. McCrae, Thomas: Acute Lymphatic Leukemia. Brit. Med. J., 1:404, Feb. 25, 1905.
2. Reed, Dorothy: A Case of Acute Lymphatic Leukemia Without Enlargement of the Lymph Glands. Am. J. Med. Sc., 124:653, Oct., 1902.
3. Auer, John: Some Hitherto Undescribed Structures Found in the Large Lymphocytes of a Case of Acute Leukemia. Am. J. Med. Sc., 131:1002, June, 1906.
4. Ottenberg, Reuben: Observations on Acute Leukemia, With Special Reference to Auer's Bodies. Am. J. Med. Sc., 138:562, Oct., 1909.
5. Naegeli, Pappenheimer, quoted by Richter: Arch. Int. Med., 31:667, May, 1923.
6. Roth, O.: Ueber Einem Bemerkenswerten Blut Befund Bei Einem Fall Von Subakuter Miliartuberkulose. Ztschr. Klin. Med., 78:75, July, 1913.
7. Ghosrojeff, G. P.: Myelosis Aleukemica Acuta Micromyeloblastica. Folia Haematologica, 20:33, Oct., 1915.
8. Goodwin, Albert: Some New Observations on Auer Bodies in Acute Myelogenous Leukemia. Folia Haematologica, 51:359, Mar., 1934.
9. Sydenstricker, V. P. and Phinizy, T. B.: Acute Monocytic Leukemia: A Case with Partial Autopsy. Am. J. Med. Sc., 184:770, Dec., 1932.
10. Levine, Victor: Monocytic Leukemia. Folia Haematologica, 52:305, Sept., 1934.
11. Hawksley, J.: A Note on the Occurrence of Auer's Bodies in Monocytic Leukemia. J. Path. and Bact., 40:365, Mar., 1935.
12. Rosenthal, M.: Studies on the Oxidase Reaction of the Cells in Normal and Leukemic Blood. Arch. Int. Med., 20:184, Aug., 1917.
13. Richter, Maurice: The Presence of Auer Bodies in Leukemic Tissues. Arch. Int. Med., 31: 677, May, 1923.
14. Kibler, R. S.: On the Nature of Auer Rods. Anat. Rec., 97:393, Mar., 1947.
15. Ackerman, G. A.: Microscopic and Histochemical Studies on the Auer Bodies in Leukemic Cells. Blood, 5:847, Sept., 1950.
16. Bessis, M.: Cytology of the Blood and the Blood Forming Organs. New York, Grune and Stratton, 1956.
17. Ito, T.: Electron Microscopic Observation on Auer Bodies in Acute Myeloid Leukemic Cells. Acta Haemat. Japonica, 20:227, Jan., 1957.
18. Freeman, J. A.: Ultrastructure and Genesis of Auer Bodies. Blood, 15:449, April, 1960.
19. Goldberg, Arthur F.: Acid Phosphatase Activity in Auer Bodies. Blood, 24:305, Sept., 1964.

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Teaching Community Aspects of Health In Relation to Medical Practice

It is a shocking experience for a recent medical graduate to discover that his training (medical school, internship, residency) has not prepared him to manage many of the patients who seek his services. This is particularly true for patients exhibiting social pathology rather than organic pathology. Moreover, it may take a young physician several years in practice before he discovers how to skillfully manage these patients and utilize the health resources of a community to assist in this management. Part of this dilemma stems from the fact that most medical training occurs in hospitals, whereas most medical practice occurs in physicians' offices.

We know of no textbook on pharmacology that lists the following therapeutic agents: clergymen, public welfare workers, Alcoholics Anonymous, attorneys, job placement services, juvenile delinquent workers, marriage counselors, public health officials and a good health insurance agent. There should be a community health pharmacopoeia just as there is a drug pharmacopoeia.

Many methods have been tried to make community health (public health or preventive medicine) more attractive to medical students. Recent surveys suggest that most of these techniques have failed. We feel that there are two major reasons why these educational attempts have failed. First, the subject material has not been reasonably identified with common problems the physician sees in medical practice. Subjects such as pure water, pit privys and health department organization, when presented as such, have little or no appeal to medical students. Second, the lecture method of presentation affords little stimulation as it represents one way communication. It is our feeling that students need to be involved more actively in the teaching-learning process. The purpose of this report is to describe how community health has been taught at the University of Missouri School of Medicine for the past three years.

A report on the use of the seminar technique in teaching second year medical students the various community aspects of health and disease. The course makes use of both medical and non-medical professionals to bring to the students' attention the wide range of community resources which the physician may utilize in his practice of medicine. The seminar topics are drawn from problems which are found in everyday medical practice. Doctors Parrish, Goldner and Baker are from the Department of Community Health and Medical Practice, University of Missouri School of Medicine.

Objectives

The purpose of the community health course, in broad terms, is to acquaint medical students with basic concepts of preventive medicine, community health and epidemiology as they relate to the practice of medicine for the individual patient, the family and the community. The course has six specific objectives: (1) To present basic principles about the *natural history*, prevention and control of diseases, using specific diseases for illustrative purposes; (2) To familiarize the student with the concept of *multiple causation* of disease which results from an interaction of various human, agent and environmental factors; (3) To demonstrate the multidisciplinary or *team approach* to disease in which physicians coordinate their efforts with other health and community workers. What are the roles of various professionals in patient care? (4) To learn that there is a *biological gradient* of disease which ranges from being completely free from the disease to dying because of the disease. Emphasis is placed on diagnosing and treating pre-clinical disease; (5) To illustrate that *epidemiology* and preventive medicine can be useful in everyday medical practice and (6) To explore *community health resources* that are available to assist the physician in the management of his patients.

Methods of Instruction

Since community health bridges basic sciences to clinical medicine, we have found it is best presented to second year medical students. At this time students are crossing that bridge, taking courses varying from pathology and microbiology to physical diagnosis and introductory medicine. There are 16 two-hour periods for instruction. The first session is used to describe the purpose and methods of the course. During this session the class is divided into 14 seminar groups with five to six students per group. Students are provided with a list of about 25 seminar topics. Table 1 provides a list of these topics. Students in each seminar group select the topic they want to present. To avoid administrative conflicts each group ranks topics by first, second and third preferences. Students are not limited to topics on the list. They may select any subject which is related to community health. The last session is used for an examination. This examination does not count towards the grade. It is used for students to evaluate what they have learned and for faculty members to determine if students realized course objectives.

Each student group meets with one or two faculty members four weeks before the seminar is presented. During these meetings students explore what their selected topic means in medical practice, the subject content to be included and the most suitable educational methods to present this material to their classmates. Students make the decisions. Faculty members observe individual participation and group dynamics and make suggestions about people in the community who might serve as good consultants. Faculty members usually attend an average of two or three meetings with each seminar group. The medical students, however, hold many informal meetings without faculty members. In general, students are provided as little or as much faculty assistance as they request.

Students make all arrangements for their seminar, including meeting out-of-town consultants, providing printed name plates for consultants, preparing a mimeographed bibliography on the seminar topic for their classmates and ordering movie films, pamphlets or other hand-outs.

TABLE 1

Subjects Which May Be Selected for Community Health Seminars

1. Automobile Accidents and the Physician.
2. Childhood Poisoning and the Physician.
3. Cancer Detection in Medical Practice.
4. Heart Disease Prevention and Control in Medical Practice.
5. Rabies Prevention and Control.
6. Venereal Diseases and the Physician.
7. Alcoholism—A Community Health Problem.
8. The Premarital Examination and Marriage Counseling.
9. Adequate Housing—A Community Health Problem?
10. How Reliable Are the Medical History and Laboratory Tests?
11. Designing a Hospital Disaster Plan.
12. The Physician's Role in Civil Defense.
13. How to Conduct a Community Health Survey.
14. Planning a Poliomyelitis Vaccination Program for a Town.
15. Attempted Suicide—Management and Prevention.
16. Thalidomide and Phocomelia: Prevention of Birth Defects.
17. Diabetes Detection in a Community.
18. M.D.'s Responsibility in Reporting Births, Deaths, Diseases.
19. The Population Explosion: An International Health Problem.
20. Physician's Role as a Health Educator to his Patients.
21. The Unwed Mother and Illegitimate Children.
22. Problems of Stroke Victims.
23. Value of the Periodic Health Examination.
24. The Crisis in American Medicine: The Cost of Medical Care.
25. How Do You Investigate a Disease Outbreak in a Nursery?
26. "Keeping Up" With Recent Advances in Medicine.
27. Solo Versus Group Practice: Advantages, Disadvantages.

Results

Second year medical students have shown remarkable versatility and creativeness in planning and presenting their seminars. In a real sense each group is competing with all other groups to present the most interesting, worthwhile and informative seminar. Very little, if any, faculty stimulation is needed. Educational techniques used for various seminars have included: panel discussions by consultants, individual presentations by consultants and students, movies, audio-tape interviews with patients, interviewing patients, a two-act play with student actors, group discussions, projector slides and transparencies, pamphlets and booklets as handouts and formal printed programs with a summary of what is to be presented.

Usually, the subject material is presented during the first 60 to 70 minutes. This is followed by a 30 to 40-minute discussion period with the entire class participating. A few pertinent questions

TABLE 2

Professional Groups Participating in Selected Community Health Seminars

	Professional Group										
Subject of Seminar	G.P.	SURG.	INT. MED.	OB.-GYN.	PSY-CHIAT.	PREV. MED.	LAWYER	POLICE	VOL. HEALTH AGENCY	CLERGY	OTHERS*
Automobile accidents		×	×			×	×	×			
Alcoholism	×		×		×			×	×	×	
Premarital exam and marriage counseling	×			×						×	1
Poliomyelitis immunization program	×					×	×				
Unwed mother and illegitimate children				×	×		×			×	2
Cost and payment of medical care	×										3, 4, 5, 6
Heart disease prevention and control		×	×			×			×		7, 8, 9
Investigating disease outbreak in a nursery				×		×					10, 11

* Others: (1) Marriage counselor; (2) Social case worker; (3) Health insurance; (4) Economist; (5) Dean of medical school; (6) Hospital administrator; (7) Pathologist; (8) Physical medicine and rehabilitation; (9) Coronary disease patient; (10) Microbiologist; (11) Pediatrician.

are planted in the audience to start discussions. Students comment that they especially enjoy and benefit from discussion periods, which provide a time for the entire class to participate actively in each program.

Table 2 lists the professional people (medical and para-medical) who have participated in selected community health seminars. Twenty different kinds of professional people expressed their views on these eight seminar topics. The most frequently used professional groups were: general practitioners, preventive medicine consultants, internists, clergymen and lawyers. Students responded especially well to general practitioners who were practicing in various parts of the State. Students realized that these men are in the front lines of medicine and are faced everyday with the problems presented in the seminars. The multidisciplinary approach allows students to hear the views of a large number of health professionals in a short time. It also reflects community interest in health and disease.

Table 3 indicates the degree of success in achieving the six course objectives during eight selected community health seminars. The team approach to disease and community resources were emphasized in all eight seminars. The natural history and multiple causative factors of diseases were pointed out in seven of the eight seminars. Thus, it appears that community health

TABLE 3

Course Objectives Achieved in Selected Community Health Seminars

	Course Objectives						
Subject of Seminar	NATURAL HISTORY	MULTIPLE CAUSATION	TEAM APPROACH	BIOLOGICAL GRADIENT	EPIDEMIOLOGY IN PRACTICE	COMMUNITY RESOURCES	TOTAL
Automobile accidents	×	×	×	×	×	×	6
Alcoholism	×	×	×	×		×	5
Premarital exam and marriage counseling	×	×	×			×	4
Poliomyelitis immunization program	×	×	×	×		×	5
Unwed mother and illegitimate children	×		×		×	×	4
Cost and payment of medical care		×	×			×	3
Heart disease prevention and control	×	×	×	×	×	×	6
Investigating disease outbreak in a nursery	×	×	×	×	×	×	6
Total	7	7	8	5	4	8	39

seminars fulfilled the objectives for which they were designed.

Perhaps we failed to mention another way to evaluate the success of these seminars . . . applause. Student applause! During the past three years the class has applauded after every seminar with but two exceptions. It has been our observation that University of Missouri medical students (and we suspect that it is universally true of medical students) do not applaud unless a program is especially outstanding and worthwhile. They certainly *don't* applaud after lectures given by their professors!

SUMMARY

The technique of using seminars to teach the community aspects of health and disease to second year medical students is described. The topics presented are problems faced in everyday medical practice. They usually represent social pathology rather than organic pathology. Each seminar group was composed of five or six medical students. The students decide the topic they want to present and are responsible for organizing and presenting the topic to their classmates during a two-hour session. At least 30 to 40 minutes at the end of the program is allowed for class discussion. In our experience, these seminars provide a stimulating, effective and well accepted method of teaching preventive medicine and public health.

Mesenteric Arterial Occlusion (Cont'd.)

SUMMARY

Mesenteric vascular occlusion of any type is rare in infants and children. In the newborn, it would seem to be extremely rare since only ten such cases could be found in the literature.

The authors report in some detail their personal experience with two cases of primary mesenteric arterial occlusion in newborn infants. A limited tabular analysis of all the neonatal cases, including those of the authors, is presented together with a brief discussion of the possible etiologic factors, diagnosis and treatment of this disorder.

Acknowledgment: The authors wish to express their appreciation to Dr. Charles J. Eldridge of Kansas City and Dr. George Gary of Marceline for permission to publish the cases reported herein.

BIBLIOGRAPHY

1. Ratner, I. A. and Swenson, O.: Mesenteric Vascular Occlusion in Infancy and Childhood. New Eng. J. Med., 263:1122, 1960.
2. DeMuth, W. E., Jr.: Mesenteric Vascular Occlusion in Children. J.A.M.A., 179:130, 1962.
3. Hoskova, A.: Acute Thrombosis of Abdominal Veins in Newborn Infants. Cesk. Pediat., 18:60-70, Jan. 1963.
4. Carucci, J. J.: Mesenteric Vascular Occlusion. Am. J. Surg., 85:47, 1953.
5. Orr, T. G., Jr., Lorhan, P. H. and Kaul, P. G.: Mesenteric Vascular Occlusion, A Report of Two Cases. J.A.M.A., 155:648, 1954.
6. Schutta, E. J., Boley, S. J., Pines, B. and Cohen, H.: Survival With Normal Growth Following Massive Resection of Small Intestine in Newborn Infant (Case Report). New York State J. Med., 62:3133, 1962.
7. Klob, J.: Thrombosis Ductus Botalli. Ztschr. d.k.k. Gesellsch. d. Aertze zu Wien, 15:4, 1859.
8. Gruner, E. P. J.: Ueber einen Fall von Aneurysma des Ductus Arteriosus Botalli mit Parietalthrombus der Aorta. Freiburg i. Br., Speyer und Kaerner, 1904.
9. Mersheimer, W. L., Winfield, J. M. and Fankhauser, R. L.: Mesenteric Vascular Occlusion. Arch. Surg., 66:752, 1953.
10. Rothschild, H. B., Storck, A. and Myers, B.: Mesenteric Occlusion in a Newborn Infant. J. Pediat., 43:569, 1953.

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SEARLE

Research in the Service of Medicine

JOHN H. LANDOR, M.D., *Columbia*

Diverticula of the Small Intestine

Case Reports

Small bowel diverticula, though encountered infrequently and generally considered unimportant, can be responsible for a wide variety of symptoms and serious complications. During the past several decades more attention has been paid to this entity and its manifestations, and there has been an increase in understanding of the mechanisms by which diverticula can cause inflammatory, mechanical and metabolic disturbances. It is the purpose of this presentation to review pertinent facts concerning small intestinal diverticula and to report two cases, each of which represents a serious complication arising from diverticular disease.

It is apparent from the multiplicity of descriptive terms applied to intestinal diverticula—pulsion-traction, true-false, congenital-acquired, primary-secondary, and pseudodiverticula—that the evolution of this terminology has not yet reached its zenith. Pulsion refers to a ballooning out of mucosa through a defect in the muscularis, whereas traction implies the drawing out of the full thickness of the bowel wall by an adjacent inflammatory process. A true diverticulum is one in which all layers of the bowel wall are present, whereas only mucosa and muscularis mucosae form the wall of a false diverticula. Some authors have confused true and false diverticula and have used these terms with reverse meaning, perhaps because false diverticulum sounds as though it ought to be the same as pseudodiverticulum. The latter, however, is almost exclusively a radiological term used to describe an outpouching of the duodenal bulb due to inflammation and scarring secondary to duodenal ulcer disease. The pseudodiverticulum usually consists of the full thickness of bowel wall. Congenital and acquired have obvious connotations. Because of the confusion in terminology, many have preferred the terms primary and secondary. A secondary diverticulum is one which contains all layers of bowel wall and results from traction and fibrosis due to an adjacent inflammatory process. A primary diverticulum (with the exception of Meckel's diverticulum and certain other rare congenital types) is thin-walled with no muscularis and occurs almost always along the mesenteric border of the gut.

The diverticula with which we are concerned here can be referred to then (somewhat with tongue in cheek) as non-Meckelian, pulsion, false, acquired, primary diverticula. As mentioned above, these arise with few exceptions from the mesenteric border of the intestine. They are thought to result from the herniation of mucosa through congenitally weak areas of the muscularis. The most common site for small bowel diverticula is the duodenum, and approximately two-thirds of duodenal diverticula are found in the descending duodenum very close to the ampulla of Vater.[1] The next most frequent site is the proximal jejunum. They are much less commonly seen in the distal small bowel.

Clinical Manifestations

A great variety of symptoms have been ascribed to intestinal diverticula, and opinions range between those who feel that diverticula are completely innocuous and those who suggest that they are responsible for gastrointestinal complaints in a majority of individuals who harbor them. As can be seen in Table 1, symptoms may be of a functional nature or may be due to specific complications. There seems to be nothing pathognomonic about the symptoms which arise from uncomplicated diverticula. These would encompass all varieties of abdominal pain and, in addition, would include anorexia, nausea, vomiting, belching, flatulence, constipation and diarrhea. It is difficult, if not impossible, to determine if such symptoms are really due to small bowel diverticula. All too often, patients having these complaints are found to have, in addition

A review of the clinical manifestations of diverticula of the small intestine and presentation of two case reports illustrating serious complications of duodenal and jejunal diverticula. Doctor Landor is Associate Professor of Surgery at the University of Missouri School of Medicine. This paper was presented originally at the Medical Center's 1965 Spring Clinical Conference.

to diverticula, other gastrointestinal abnormalities which might account for the symptoms. Although there are well-documented cases where excision of a diverticulum or resection of a segment of bowel containing multiple diverticula has brought relief of symptoms, one cannot always exclude the possible placebo effect of surgery as an explanation for the desirable results.

As with diverticula of the colon, inflammation accounts for the majority of complications of diverticula of the small intestine. This may take the form of simple bouts of diverticulitis with inflammation of the diverticular wall and adjacent structures, or inflammation may lead to perforation with one or more of its sequelae—abscess, generalized peritonitis or fistula formation.[2] The following case provides an example of a patient with perforated diverticulitis of the jejunum managed by primary resection.

Case Report

A 55-year-old male was admitted to the University of Missouri Medical Center on October 5, 1962, complaining of sudden onset of pain in the left abdomen during the evening prior to admission. The pain had become generalized over the lower abdomen and there had been several bouts of vomiting shortly before his admission. The pulse was 100 and the temperature was 99.0° F. Examination revealed a rigid abdomen with generalized rebound tenderness and complete absence of bowel sounds. Routine laboratory examinations were within normal limits except for a white blood cell count of 13,000 cu. mm. with a moderate shift to the left. Exploratory laparotomy was carried out, and purulent material was found throughout the peritoneal cavity. Five diverticula were visualized at the mesenteric border of the jejunum, approximately 25 cm. distal to the ligament of Treitz. All of these diverticula appeared inflammed and one was apparently perforated. The involved segment of jejunum was resected and end-to-end anastomosis carried out. Recovery was uneventful and the patient was discharged on the eighth postoperative day. He was last seen on November 22, 1963, and had been asymptomatic during the intervening 13 months.

TABLE 1

Clinical Manifestations of Small Bowel Diverticula

I. Functional Distress
    Vague pain, nausea, vomiting, change in bowel habit, etc.
II. Inflammation
    A. Diverticulitis
    B. Perforation
        1. Abscess
        2. Generalized peritonitis
        3. Fistula
III. Obstruction
    A. Extrinsic pressure on bowel (distended diverticulum or adjacent inflammatory mass)
    B. Adhesive bands
    C. Volvulus
    D. Enterolith ileus
    E. Dyskinesia
IV. Hemorrhage
V. Metabolic Abnormalities
    A. Megaloblastic anemia
    B. Steatorrhea
VI. Problems peculiar to peri-Vaterian diverticula
    A. Obstructive jaundice
    B. Pancreatitis

Complications of small bowel diverticula can produce bowel obstruction through a wide variety of mechanisms. Extrinsic pressure sufficent to occlude the lumen of the bowel can be produced by a diverticulum distended by accumulated bowel contents, concretions, foreign bodies or intestinal parasites. The same condition can be produced also by an abscess or inflammatory mass secondary to diverticulitis. Adhesive bands may form with diverticulitis and then cause obstruction by constricting the bowel. Volvulus can be brought about mechanical or inflammatory effects of diverticula and, perhaps, by disturbances in motility sometimes associated with diverticulitis. A somewhat unusual cause of obstruction is "enterolith ileus,"[3, 4] which may occur when a concretion forms in a large diverticulum, escapes into the intestinal loop and lodges in a segment of bowel too narrow to accommodate its passage. Both acute and chronic obstruction have been attributed to a "dyskinesia" of the jejunum associated with multiple diverticula. In this syndrome, although the area of involved jejunum is found to be greatly dilated and the muscularis is hypertrophied, there is no evidence of mechanical obstruction, and it is felt that the passage of intestinal contents is impeded by disordered motility. Phillips[5] believes that the pulsion diverticula may form in a segment of dyskinetic bowel as a result of irregular peristalsis. Altemeier, Bryant, and Wulsin[6] believe that the dyskinesia, or lack of effective peristaltic propulsion, results from the presence of many distended, wide-mouthed, non-contracting diverticula.

Hemorrhage is another serious complication of diverticulosis which may result from frank ulceration of the mucosa or from a minute erosion into a mucosal blood vessel. Shackelford and Marcus,[7] reporting three cases and reviewing 21 previous cases from the literature, suggest that the bowel be distended with air at the operating table or at autopsy in cases of obscure gastrointestinal hemorrhage. In this way, small diverticula which may represent the site of bleeding will be more readily visualized. Forrest[8] believes that diverticula are a more common source of bleeding than is generally recognized, based on his finding of duodenal diverticula in 10.3% of patients with gastrointestinal hemorrhage as opposed to only 2.75% of a control series without gastrointestinal bleeding.

One of the more complex manifestations of small bowel diverticula, and one which has only recently been described, is the occurrence of megaloblastic anemia with or without steatorrhea. In 1949 Cameron, Watson and Witts[9] were able to produce macrocytic anemia in rats by the creation of "self-filling" small intestinal blind loops. This work was confirmed by Toon and Wangensteen,[10] who also showed that the anemia could be prevented by the administration of chlortetracycline, thus implicating the bacterial flora in the stagnant loop as a possible causative factor in the anemia. In 1954 Badenoch and Bedford[11] reported two patients with steatorrhea and megaloblastic anemia associated with diverticulosis of the small intestine. The following year Dick[12] reported a similar case which responded to chlortetracycline therapy. Since that time the syndrome has been recognized with increasing frequency, and it is now known to be caused by any condition which produces stasis in the small intestine. Macrocytic anemia may occur alone or in combination with steatorrhea. The anemia is due to Vitamin B_{12} deficiency and this, in turn, appears to be related to an overgrowth of bacteria in the diverticula. Neurological changes, such as those seen with pernicious anemia, are frequently found, and these patients may be diagnosed erroneously as having pernicious anemia. One important point which helps in the differental diagnosis is the observation that some, but unfortunately not all, of patients with a Vitamin B_{12} deficiency on the basis of diverticulosis have free acid present in the stomach, a finding not expected in true pernicious anemia. Efforts to explain the exact mechanism of development of the Vitamin B_{12} deficiency or steatorrhea have been unrewarding, although it is clear that this is brought about in some way by remarkable increase in the number of bacteria found in the diverticula and in their vicinity. Both the anemia and the steatorrhea can be corrected either by administration of broad-spectrum antibiotics or by resection of the segment of intestine containing the diverticula. The syndrome may be more common than has been appreciated in the past, for Cooke, *et al.*[13] found a disturbance in Vitamin B_{12} metabolism or absorption in 16 of their 33 patients with jejunal diverticula.

In addition to their ability to produce all of the above manifestations, diverticula which occur in the peri-Vaterian portion of the descending duodenum can cause symptoms because of their close proximity to the common bile duct and pancreatic ducts. Whether by virtue of mechanical pressure on a duct from distention of the diverticulum, inflammatory changes in the area secondary to diverticulitis or spasm of the sphincter of Oddi initiated by the adjacent diverticulum, biliary tract disease[14-17] and pancreatitis[18] can be caused by a diverticulum in this important area. Furthermore, patients with diverticula in this region can experience pain which is typical of biliary colic in the absence of stones or duct stricture. The following case illustrates obstructive jaundice caused by a duodenal diverticulum in the absence of stones or other possible causes of jaundice.

Case Report

An 85-year-old female was admitted to the University of Missouri Medical Center on June 2, 1959, with complaints of malaise and fatigue of two weeks duration. Jaundice had been noted during the five days prior to admission. Physical examination was not remarkable except for the finding of a palpable liver edge two finger-breadths beneath the right costal margin and the presence of icterus. The patient exhibited an intermittent fever which spiked as high as 103.4° F. The hematocrit was 32% and the white blood cell count was 16,000/cu. mm. The serum alkaline phosphatase was 49.5 King-Armstrong units and the total bilirubin was 11.5 mg. %. Upper gastrointestinal series was normal except that a diverticulum in the second portion of the duodenum was observed. After an extensive work-up on the medical service a tentative diagnosis of obstructive jaundice was made and the patient was transferred to the surgical service. Exploratory laparotomy was carried out and a contracted, fibrotic gall bladder containing no stones was found. The common duct was grossly enlarged and choledochotomy was carried out. No stones were found within the ductal system and a probe easily passed through the ampulla of Vater into the duodenum. After mobilizing the descending duodenum by severing its lateral peritoneal attachments, a large diverticulum arising in the peri-Vaterian area was seen. This was excised and T-tube drainage of the common duct was instituted. Operative and post-operative T-tube cholangiograms showed a dilated biliary tree with no evidence of stones or obstruction. Recovery was slow but complete and the T-tube was removed prior to the patient's discharge from the hospital. Follow-up by letter 15 months after surgery revealed no further episodes of illness or jaundice.

The Therapeutic Problem

Despite the fact that small bowel diverticula can produce a variety of symptoms and complications, most studies indicate that the majority of such diverticula are and remain asymptomatic. The finding of diverticula on upper gastrointestinal series or small bowel X-ray, then, is not in itself an indication for surgical intervention. The problem lies, however, in attempting to correlate symptoms with the presence of a diverticulum or diverticula.

When complications such as perforation or obstruction arise, the necessity for surgical correction is usually apparent. With hemorrhage, the course is not quite so clear-cut unless exploration yields unequivocal evidence of bleeding arising in a diverticulum. When, with repeated or continued gastrointestinal bleeding, the work-up is negative and operation fails to reveal the lesion responsible, we agree with Shackelford and Marcus[7] that every effort should be made to demonstrate the presence of small bowel diverticula. There are now a sufficient number of cases implicating diverticula as the source of hemorrhage to warrant the resection of diverticula when no other possible source of bleeding can be found.

Patients with a pernicious anemia-like syndrome, particularly if free acid is present, and those with steatorrhea of unknown etiology should be subjected to thorough roentgenologic evaluation in an effort to disclose diverticula. Either or both syndromes can be caused by a large single diverticulum or by multiple diverticula. If aspiration of the contents of the involved area of bowel yields material containing large numbers of bacteria, suspicion that diverticula may be the cause of Vitamin B_{12} deficiency or steatorrhea will be heightened. The diagnosis can be confirmed if symptomatic improvement and increased intestinal absorption of Co60 B_{12} result from therapy with a broad spectrum antibiotic. Some of these patients may be managed indefinitely with continuous or intermittent antibiotic therapy, while others will respond more satisfactorily to surgical resection of the involved segment of bowel.

The peri-Vaterian duodenal diverticulum poses special problems. Not only may it cause obstruction to the bile or pancreatic ducts, with jaundice or pancreatitis, but it may also be responsible for symptoms identical to those associated with gall bladder disease.[14] We believe that in all patients undergoing cholecystectomy or other biliary tract surgery such a diverticulum, if present, should be excised. We also feel that removal of a peri-Vaterian diverticulum will provide relief of symptoms in many patients who have complaints suggestive of cholecystitis but who have no gall stones or other signs of disease within the biliary tract *per se.*

As to the patient with small intestinal diverticula who has gastrointestinal complaints of a less specific nature, no inflexible rules can be applied. In the past there has been a tendency to ignore diverticula as a possible cause of symptoms. It would now seem that some patients in this category will obtain relief of symptoms by removal of diverticula, and that this should be undertaken in a limited number of cases after exhaustive diagnostic studies have failed to reveal other abnormalities, and when judgement indicates that the symptoms are not psychoneurotic in origin.

Bibliography

1. Mahorner, H.: Diverticula of the duodenum: A report of eight surgical cases. Ann. Surg., 133:697, 1951.

2. Herrington, J. L., Jr.: Perforation of acquired diverticula of the jejunum and ileum. Analysis of reported cases. Surgery, 51:426, 1962.

3. Bomford, W. B. N.: Jejunal diverticulosis as a cause of intestinal obstruction. Brit. J. Surg., 47:690, 1960.

4. Upson, J., Culver, G. J. and Herrmann, J. W.: Enterolith ileus as a complication of duodenal and jejunal diverticula. Surgery, 54:725, 1963.

5. Phillips, J. H. C.: Jejunal diverticulosis. Some clinical aspects. Brit. J. Surg., 40:350, 1953.

6. Altemeier, W. A., Bryant, L. R. and Wulsin, J. H.: The surgical significance of jejunal diverticulosis. Arch. Surg., 86:732, 1963.

7. Shackelford, R. T. and Marcus, W. Y.: Jejunal diverticula—a cause of gastro-intestinal hemorrhage: A report of three cases and review of the literature. Ann. Surg., 151:930, 1960.

8. Forrest, A. D.: Incidence of bleeding in duodenal diverticula. Gastroenterology, 33:800, 1957.

9. Cameron, D. G., Watson, G. M. and Witts, L. J.: The experimental production of macrocytic anemia by operations on the intestinal tract. Blood, 4:803, 1949.

10. Toon, R. W. and Wangensteen, O. H.: Anemia associated with blind intestinal segments and its prevention with aureomycin. Proc. Soc. Exp. Biol. Med. 75:762, 1950.

11. Badenoch, J. and Bedford, P. D.: Massive diverticulosis of the upper intestine presenting with steatorrhea and megaloblastic anaemia (abstract). Quart. J. Med., 23:462, 1954.

12. Dick, A. P.: Association of jejunal diverticulosis and steatorrhea. Brit. Med. J., 1:145, 1955.

13. Cooke, W. T., Cox, E. V., Fone, D. J., Meynell, M. J. and Gaddie, R.: The clinical and metabolic significance of jejunal diverticula. Gut, 4:115, 1963.

14. Patterson, R. H. and Bromberg, B.: Surgical significance of duodenal diverticula. Ann. Surg., 134:834, 1951.

15. Wilbur, B. C., Reimer, G. W. and Cressman, R. D.: Duodenal diverticula in common duct disease. Amer. J. Surg., 92:318, 1956.

16. Jones, T. W. and Merendino, K. A.: The perplexing duodenal diverticulum. Surgery, 48:1068, 1960.

17. Hartley, F. K.: Biliary obstruction: A case of common bile duct obstruction as a complication of a duodenal diverticulum. J. Kansas Med. Soc., 63:15, 1962.

18. Hoffman, E.: Acute pancreatitis due to a peri-Vaterine duodenal diverticulum. Arch. Surg., 78:177, 1959.

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Double Blind Clinical Comparison of Two Oral Cholecystographic Contrast Media

IPODATE CALCIUM[*] and ipodate sodium[†] are the calcium and sodium salts of 3-(dimethylamino-methyleneamino)-2,4,6-triiodophenyl-propionic acid. In 1959 these substances were introduced in Europe as cholecystocholangiographic contrast materials under the trade names of Biloptin and Solu-biloptin, respectively. In 1961 they became available commercially in the United States under the trade name of Oragrafin. Several papers have indicated the value of Oragrafin for oral cholangiography and cholecystography.[1-6] To date, however, only two reports on a total of about 400 cases have appeared in the American literature comparing ipodate sodium with another frequently used cholecystographic agent.[7, 8] The purpose of this paper is to detail the findings in a double blind clinical comparison of ipodate sodium (Fig. 1A) with iopanoic acid[‡] (Fig. 1B) in 586 examinations performed in 536 patients.

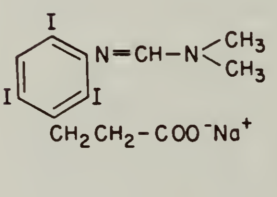
MATERIALS AND METHODS

A total of 536 consecutive adult patients having cholecystography were studied, 265 receiving Oragrafin and 271 receiving Telepaque. Table 1 shows the age and sex distribution of the patients in each group. Each patient and dose of contrast material was identified and matched by number. The contrast material was administered in a random fashion according to the day of the week, and the type of agent given was unknown to the patient and radiologist.

All patients were prepared in the same manner. On the evening prior to the examination oral intake was limited to a light supper containing no fatty or fried foods. Approximately twelve hours prior to the study the tablets or capsules of contrast material were administered in two to five minute intervals with water. No laxative was used, and no oral intake was permitted until completion of the examination.

Routinely, each patient received 3 gm. of contrast material. If the gall bladder failed to visualize or if opacification was inadequate, an additional 6 gm. of contrast material were given in the evening of the first examination, and repeat study was performed the following day (double dose examination). In the tabulation and analysis of results, the double dose study was considered a second examination. Posterior-anterior and left anterior oblique roentgenograms were obtained of the right upper quadrant with the patient in the prone position. Many patients also had right lateral decubitus views, using a horizontal X-ray beam. Technical factors were as follows: 200 ma., 0.5 seconds and 60-70 kv. All patients had fluoroscopic spot films of the gall bladder in the erect position.

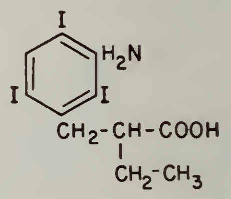
CHEMICAL FORMULA OF SODIUM IPODATE (Oragrafin) AND IOPANOIC ACID (Telepaque)



IPODATE SODIUM

Iodine Content - 61.4%

Fig. 1A



IOPANIC ACID

Iodine Content - 66.7%

Fig. 1B

Each examination was analyzed for the following features: (1) degree of opacification of the gall bladder, (2) demonstration of radiolucent stones, (3) visualization of the common bile duct and (4) residual cholecystographic contrast material in the bowel. During the examinations many patients were given a fatty meal prior to additional roentgenograms, but these films were not used in the analysis.

Each patient was interviewed regarding tolerance to the contrast material, particularly with reference to nausea, vomiting, abdominal cramps, diarrhea and skin reaction. Only unequivocal complaints were recorded, and those symptoms which were mild or clinically insignificant were disregarded.

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[*] Oragrafin Calcium Granules, Squibb Laboratories, New York, N. Y.

[†] Oragrafin Sodium Capsules, Squibb Laboratories, New York, N. Y.

[‡] Telepaque, Winthrop Laboratories, New York, N.Y.

TABLE 1

DOUBLE BLIND CLINICAL COMPARISON OF ORAGRAFIN AND TELEPAQUE IN ORAL CHOLECYSTOGRAPHY

Age and Sex Distribution of 536 Patients

Age	*Oragrafin*	*Telepaque*
10-19	2	1
20-29	20	31
30-39	32	39
40-49	64	65
50-59	63	56
60-69	51	50
70-79	26	27
80-89	7	2
	265	271
Sex		
Males	99	89
Females	166	182
	265	271

Report of a double blind clinical comparison of ipodate sodium with iopanoic acid in oral cholecystography. The authors have collected data from 586 examinations in which the contrast agents were used and have compared them on such points as degree of opacification, clarity of visualization and patient tolerance. Evidence indicates that ipodate sodium is a satisfactory contrast material. Doctors Perez and Friedenberg are from the Edward Mallinckrodt Institute of Radiology, Washington University School of Medicine.

RESULTS

Table 2 compares the concentration of Oragrafin in the gall bladder relative to Telepaque and shows no difference between the two contrast materials in this respect. The number of patients requiring double dose examinations with Oragrafin was the same as with Telepaque. The frequency of non-visualization of the gall bladder was approximately the same with the two contrast materials, whether single or double dose examination were performed.

Oragrafin and Telepaque were equally effective in demonstrating radiolucent calculi (70% excellent and good demonstration, 30% fair and poor).

Table 3 indicates that the degree of opacification of the common bile duct was essentially the same, whether Oragrafin or Telepaque was used. However, in both groups relatively more intense opacification of the common duct was produced by a double dose of contrast material.

Table 4 shows that significantly greater amounts of cholecystographic contrast material could be identified in the bowel following ingestion of Telepaque than Oragrafin. This was true whether a single or double dose of contrast material was used, although with each agent significantly more residual contrast material was present following a double dose. In 25 patients

TABLE 2

INTENSITY OF CONCENTRATION OF CONTRAST MATERIAL IN THE GALL BLADDER

Single Dose	*Non-Vis*	*Poor*	*Fair*	*Good*	*Excellent*
Oragrafin (242 Exams)	17*	25	51	109	40
Telepaque (244 Exams)	24†	32	40	106	42

* including 3 patients with previous cholecystectomy
† including 2 patients with previous cholecystectomy

Double Dose	*Non-Vis*	*Poor*	*Fair*	*Good*	*Excellent*
Oragrafin (51 Exams)	11*	6	9	16	9
Telepaque (49 Exams)	10†	8	8	15	8

* including 3 patients with previous cholecystectomy
† including 1 patient with previous cholecystectomy

INCIDENCE OF NON-VISUALIZATION OF GALL BLADDER

	Oragrafin	*Telepaque*
Single dose	17/242 = 7%	24/244 = 9.8%
Double dose	11/ 51 = 21.6%	10/ 49 = 20.4%

TABLE 3

DEGREE OF OPACIFICATION OF THE COMMON BILE DUCT DURING ORAL CHOLECYSTOGRAPHY

Single Dose	*None*	*Poor*	*Fair*	*Good*	*Excellent*
Oragrafin (242 Exams)	175	39	14	12	3
Telepaque (244 Exams)	173	31	19	17	4

Double Dose	*None*	*Poor*	*Fair*	*Good*	*Excellent*
Oragrafin (51 Exams)	34	7	3	7	0
Telepaque (49 Exams)	31	4	2	10	2

INCIDENCE OF OPACIFICATION OF THE COMMON BILE DUCT

	Oragrafin	*Telepaque*
Single dose	67/242 = 27.7%	71/244 = 29.1%
Double dose	17/ 51 = 33.3%	18/ 49 = 36.7%

TABLE 4

Amount of Residual Cholecystographic Material in Bowel

Single Dose	*None*	*1+*	*2+*	*3+*	*Amount Not Specified*	*Retained Barium*
Oragrafin (242 Exams)	188	20	8	1	18	7
Telepaque (244 Exams)	138	41	28	7	26	6

Double Dose	*None*	*1+*	*2+*	*3+*	*Amount Not Specified*	*Retained Barium*
Oragrafin (51 Exams)	27	4	4	1	8	7
Telepaque (49 Exams)	18	6	10	4	6	5

Patients With Residual Contrast Medium in Bowel

	Oragrafin	*Telepaque*
Single dose	47/235=20%	100/238=42.1%
Double dose	17/ 44=38.7%	26/ 44=59.3%

(14 Oragrafin and 11 Telepaque) barium was retained in the bowel following previous gastrointestinal examination, making evaluation of residual cholecystographic material impossible.

Table 5 lists the symptoms of intolerance to the contrast materials following single and double doses. Urticaria developed only after ingestion of Oragrafin, but otherwise symptoms of intolerance were slightly more frequent with Telepaque.

Pathological Findings

The pathological findings in the Oragrafin and the Telepaque groups were very similar. The most common cause of the non-visualization was cholelithiasis associated with chronic cholecystitis. Three cases of superimposed acute inflammation were seen. In four patients in the Oragrafin group and two in the Telepaque group with a history of previous cholecystectomy, the examination was done in an attempt to visualize the common bile duct. A total of five patients had abnormal liver function tests, jaundice or clinical evidence of malignant metastatic deposits in the liver which could explain the non-visualization of the gall bladder. In nine patients examined with Oragrafin and 11 with Telepaque no surgery was performed, in some because of advanced age or poor surgical risk.

Discussion

Several investigators have reported clinical trials showing Oragrafin to be a satisfactory oral cholecystographic agent.[1-3, 6, 9] Others[7, 8] have reported no difference between Oragrafin and Telepaque in the degree of opacification of the gall bladder in a total of 246 patients receiving Oragrafin and 253 receiving Telepaque. Our results confirm these findings and prove Oragrafin to be satisfactory for oral cholecystography.

We have found that Oragrafin capsules and Telepaque produce the same degree of opacification of the common bile duct, confirming the findings of others.[10, 11] Oragrafin granules (Ca ipodate) has been shown to provide better bile duct opacification than Oragrafin capsules (Na ipodate) in films obtained within two hours after ingestion of the contrast agents.[4-9] We believe neither Oragrafin capsules nor Telepaque are adequate for routine cholangiography.

In comparing oral Oragrafin with intravenous Cholegrafin (Biligrafin in Europe) Köhler and Holsti[12] and Bernstein and Heilbrun[1] concluded that Biligrafin and Cholegrafin methyl glucamine produce more satisfactory opacification of the common bile duct. Hence, the intravenous contrast material is preferred for cholangiography in patients (with inadequate oral study) requiring examination of the common bile duct.

Our results show symptoms of intolerance were the same with Oragrafin and Telepaque, except that two patients developed urticaria after receiving Oragrafin. No comparable reaction was noted with Telepaque. Four other cases of urticaria have been reported after ingestion of Oragrafin.[2, 3, 9] Other investigators reported no difference between Oragrafin and Telepaque in the incidence of nausea, vomiting or abdominal pain, although diarrhea has been found by Juhl, Murray and Manton to be more frequent with Telepaque. Renal damage has not been reported yet following oral administration of Oragrafin.

Greater amounts of contrast material were present in the bowel following Telepaque than Oragrafin, a finding also noted by others.[6, 7] In our experience this residual contrast material did

TABLE 5

Clinically Significant Symptoms of Intolerance

	Oragrafin single dose (242 exams)	*Oragrafin* double dose (51 exams)	*Telepaque* single dose (241 exams)	*Telepaque* double dose (49 exams)
Nausea	3	2	5	3
Vomiting	3	1	3	2
Abdominal cramps and diarrhea	6	2	10	4
Transient urticaria	1	1	0	0

not compromise the quality of the examination.

SUMMARY

A double blind clinical comparison was made of Oragrafin and Telepaque in oral cholecystography. A total of 586 examinations were performed in 536 consecutive patients. No difference was shown in the intensity of concentration of the contrast material in the gall bladder, the quality of demonstration of radiolucent calculi or the degree of opacification of the common bile duct. However, the amount of residual cholecystographic contrast material in the bowel was significantly less after Oragrafin. Two of 265 patients receiving Oragrafin developed transient urticaria, but otherwise the symptoms of intolerance were slightly less frequent than with Telepaque. Based on experience to date, Oragrafin may be considered a satisfactory cholecystographic contrast material with a relatively low incidence of clinically significant symptoms of intolerance.

BIBLIOGRAPHY

1. Bernstein, C. and Heilbrun, N.: Clinical Trial of Ipodate. J.A.M.A., 181:1002-1003, 1962.
2. Brannan, H. M., Donovan, R. and Hodgson, J. R.: Evaluation of a New Cholecystographic Agent. Staff Meeting of Mayo Clinic, 36:197-202, 1961.
3. Kemp, F. H. and Wright, F. W.: Biloptin, Report on Preliminary Trial. Brit. J. Radiol, 34:63-64, 1961.
4. Saltzman, G. F.: Solu-Biloptin as a Contrast Medium for Peroral Cholegraphy. Acta radiol., 54:417-425, 1960.
5. Saltzman, G. F.: Biloptin as a Contrast Medium for Peroral Cholegraphy. Acta radiol., 52:282-288, 1959.
6. Whiteside, C. G.: A New Oral Contrast Medium for Cholecystography: Report of Preliminary Trial. Brit. J. Radiol., 33:124-126, 1960.
7. White, W. W. and Fischer, H. W.: A Double Blind Study of Oragrafin and Telepaque. Am. J. Roentgenol., 87:745-748, 1962.
8. Juhl, J. H., Cooperman, L. R. and Crummy, A. B.: Oragrafin, a New Cholecystographic Medium. Radiology, 80:87-91, 1963.
9. Whiteside, C. G.: Biloptin and Solu-Biloptin: Further Experience of Oral Cholecystography and Cholangiography. Brit. J. Radiol., 34:295-297, 1961.
10. Manton, D. J.: A Comparative Trial of Telepaque and Biloptin. Brit. J. Radiol., 34:298-301, 1961.
11. Murray, J. P.: Clinical Trial of Biloptin in Oral Cholecystangiography. Brit. J. Radiol., 35:278-281, 1962.
12. Kohler, R., Holsti, L. R.: Biligrafin Forte and Solu-Biloptin in a Comparative Trial. Acta radiol., 57:103-112, 1962.

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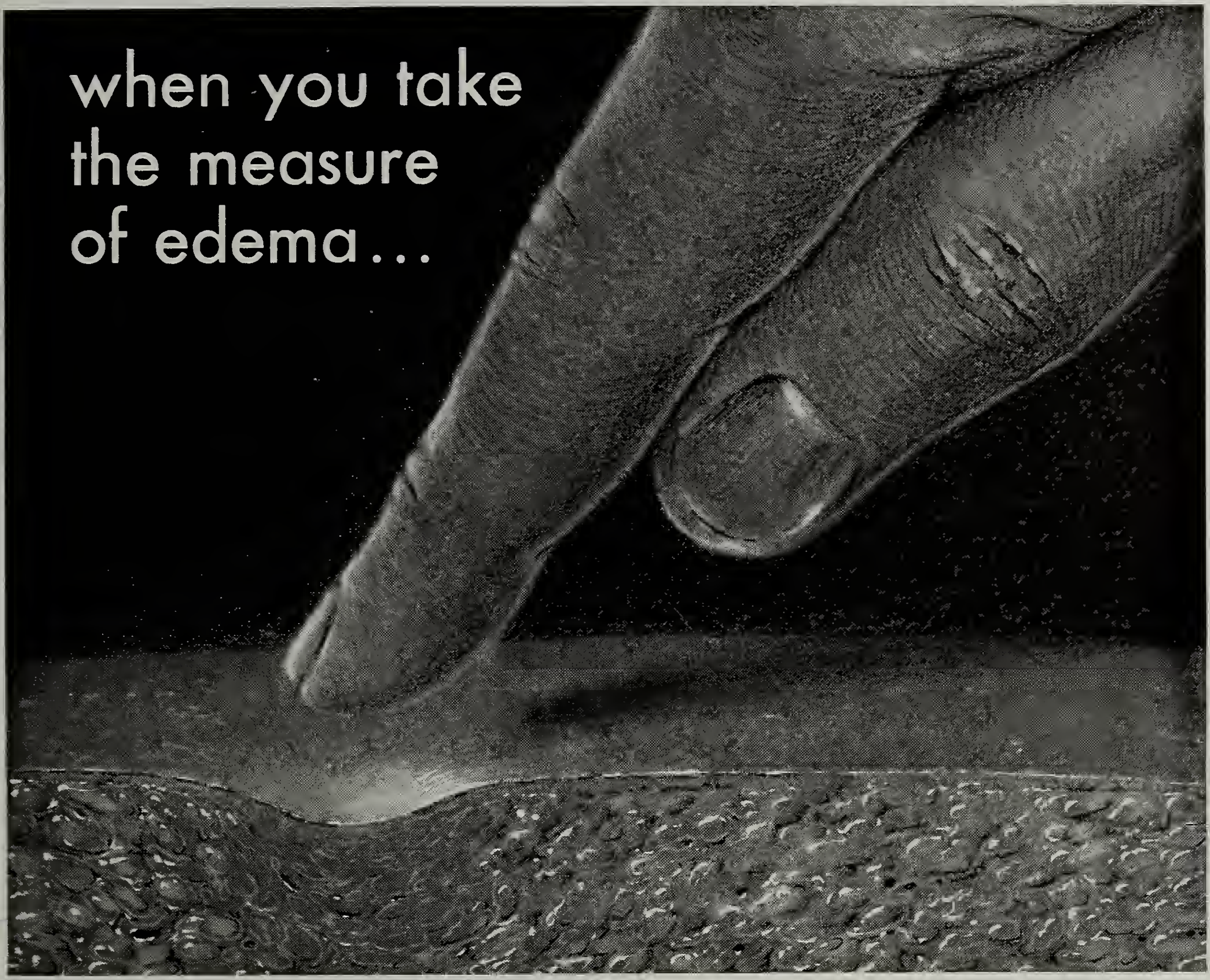

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President's Message

There is an adage which says something to the effect that, "you get what you pay for."

Right now as a member of the Missouri State Medical Association you are paying annual dues of $42.50. According to latest AMA figures, members of at least 40 other state associations are paying higher dues, as much as $120 in one state! From what I have seen and heard during my term as MSMA President, it appears that the associations with the higher financial support are the ones which are providing the most valuable services, leadership and guidance for their physician-members.

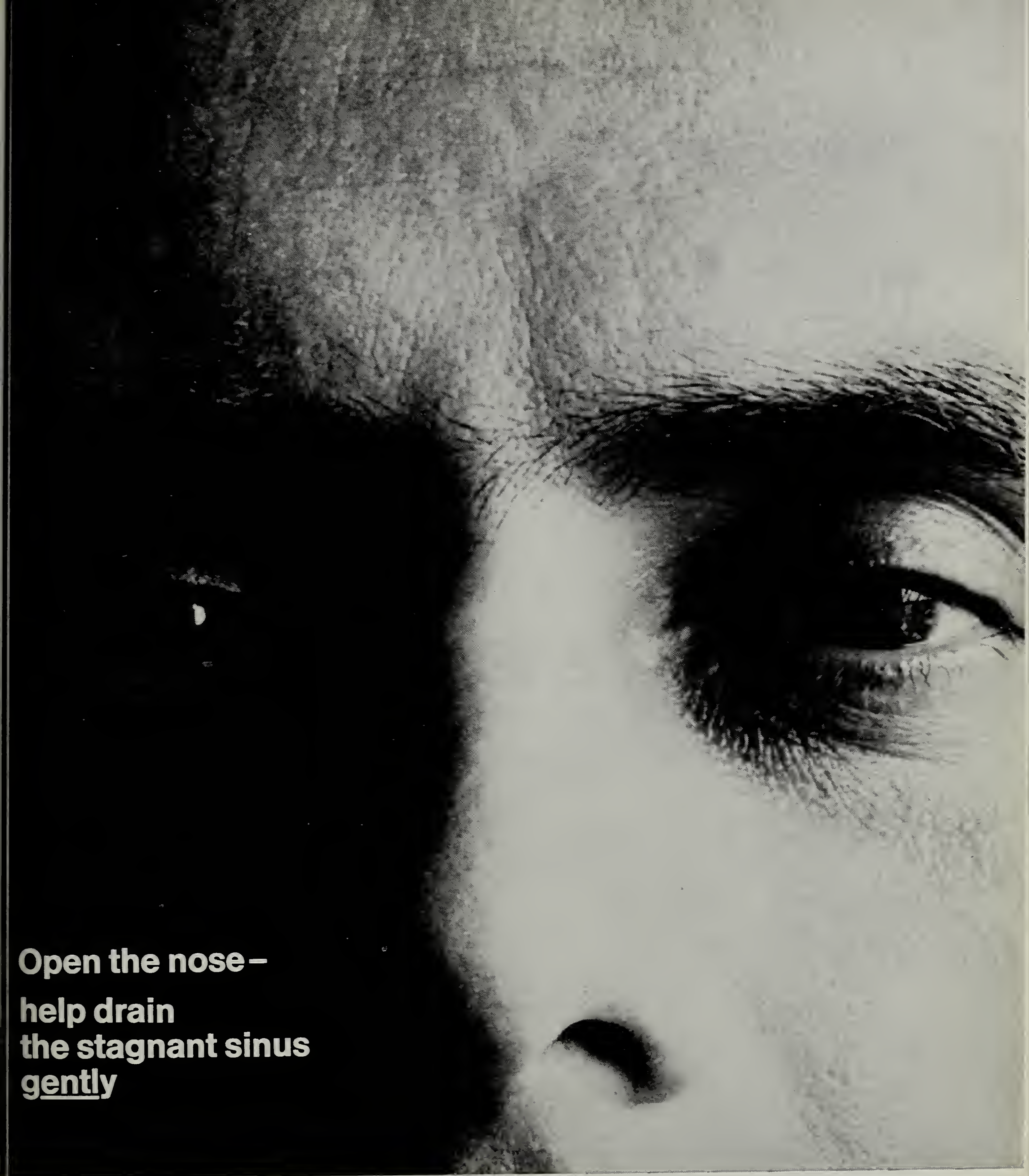
Our State Medical Association has a fine Executive Office staff of four men and four women who have proved their loyalty, abilities and work capacities. Your officers currently are trying to resolve certain adjustments in salaries and retirement benefits which will assure retention of the present staff and provide for the hiring of at least one additional employee. It appears that this will require an increase in dues.

MSMA officers, Council members, AMA Delegates and committee members devote large portions of their time and energies to shaping policies and implementing programs of the Association. This usually involves spending time away from the practice of medicine and forfeiting the income therefrom. It also means paying part or all of the out-of-pocket expenses which are incurred while conducting Association business. So, in effect, there is a double expenditure. The recently retired president of one of our sister state associations told me that it cost him about $20,000 to serve his one-year term of office!

I mention this merely to point out that the few dollars which might be involved in additional dues are rather insignificant when compared to the contributions which some of your colleagues are making. The least you can do is to provide them with the financial support which they need to carry out their assignments.

When the Budget Committee and the Council finally decide that MSMA dues should be increased, I trust that you will instruct your Delegates to support the action when it comes before the Annual Session in March.

Paul R. Whitener M.D.



Neo-Synephrine is a standard among topical vasoconstrictors. It is unsurpassed for reducing nasal turgescence in colds; and a most valuable aid in preventing and treating sinusitis.

Neo-Synephrine stops the boggy feeling of colds at once—works against factors that induce sinusitis. With Neo-Synephrine nose drops, spray or jelly, turbinates shrink on contact, obstructed ostia open and drainage is re-established.

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1/2% solution for adults
1/2% nasal spray for adults
1/2% jelly for children and adults
1% solution for adults (resistant cases)

*Proctor, D. F.: The Nose, Paranasal Sinuses, and Ears in Childhood, Springfield, Ill., Charles C Thomas, 1963, p. 34.

Winthrop

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In colds and sinusitis
Neo-Synephrine® HCl
(brand of phenylephrine hydrochloride)
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Woman's Auxiliary

A happy, healthy, peaceful New Year to you and you and you, too!!! It doesn't seem possible that 1966 could be here and that I have but three more months to serve as your president!

Mrs. R. W. Bohnsack

Since my last message, I have visited Buchanan County on November 10 and enjoyed a lovely brunch in the home of Julia Ness in St. Joseph; and enjoyed a dinner meeting with my own Grand River group on November 11. November 19 found me at a delightful Fifth District tea arranged by the Cole County auxiliary in the beautiful home of Harriett Ossman in Jefferson City. This was preceded by a luncheon in the home of Anne Exon. On December 3 I enjoyed a Christmas luncheon meeting of the Pettis County auxiliary at Sedalia; and on December 14 was guest at another Christmas luncheon planned by the Clay County auxiliary. I was received with all the warmth and hospitality so prevalent among doctors' wives each place I went, and I am most appreciative of the opportunities afforded me to meet so many fine Auxiliary members.

I took a little time out in December to conduct our choirs in a beautiful candlelight Christmas Vesper service, to take our community chorus carolling to the nursing homes and hospitals, and to spend some time with my family.

We were grateful to have all members of the family together, including Ralph's 87-year-old father! In the words of the song—"There's no place like home for the holidays!"

Now we are beginning to wind up our year of Auxiliary work. Since our state convention is a little earlier this year, the county presidents should be checking to make sure that: treasurers send state and national dues to the state treasurer and a list of deceased members for our Memorial Service; each county chairman sends a report of her year's activities to the corresponding state chairman; and arrangements are made to fill out the Point System sheets including a report to send to me so that I can get them to the committee on time. My goal is 100% participation this year! Please help me to be able to report this! My year is only a reflection of the wonderful things the counties do!!

We are starting another Medical-Self-Help Training course in our area. There is a very fine film entitled *Emergency 77* which we saw in Chicago and which may help in bringing enthusiasm for the Medical-Self-Help class. I am also seeing that our schools are getting the *Health Education Series* sent out monthly by the AMA. I hope you have done likewise. Our local radio station is running an AMA series of ten-minute transcribed programs entitled *Your Health* which is excellent.

Basketball season is starting at our house, which reminds me of the excellent AMA series on athletic injuries which I am sure your coach would be glad to have.

I hope you all have read the "Direct Line" in your new *M.D.'s Wife,* noting the beautiful picture of Betty Sutter on the cover! There are many excellent program ideas in this publication.

When the reports come in I am hoping to see an increase in membership; in AMA-ERF funds for the education of more doctors; in Health Career Clubs and Recruitment and nursing scholarships; in Safety programs with follow-up activities; and in all of the many other programs and activities which demonstrate that the Auxiliary truly is putting the ACCENT ON PROGRESS.

I hope you are all making plans for our state convention at the Hotel President in Kansas City March 27-30. The Jackson County hostesses are planning big things for us to prove that: "Everything's up to date in Kansas City!" See you there.

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TAO works

Susceptibility Results
Staphylococci [2,3,1]

# OF CULTURES	YEAR	% EFFECTIVE
6,725	1962	88.6%
5,440	1963	88.0%
10,384	1964	88.5%

β-Hemolytic Streptococci [2,3,1]

# OF CULTURES	YEAR	% EFFECTIVE
2,448	1962	89.5%
1,519	1963	95.2%
2,492	1964	96.7%

The Product

In a world study of antibiotics ***in vitro***[1], TAO had an overall effectiveness of 87.3%, higher than chloramphenicol and erythromycin, and significantly higher than tetracycline and penicillin.

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Indications: The bacterial spectrum includes: streptococci, staphylococci, pneumococci and gonococci. Recommended for acute, severe infections where adequate sensitivity testing has demonstrated susceptibility to this antibiotic and resistance to less toxic agents. **Contraindications and Precautions:** TAO (triacetyloleandomycin) is not recommended for prophylaxis or in the treatment of infectious processes which may require more than ten days continuous therapy. In view of the possible hepatotoxicity of this drug when therapy beyond ten days proves necessary, other less toxic agents, of course, should be used. If clinical judgement dictates continuation of therapy for longer periods, serial monitoring of liver profile is recommended, and the drug should be discontinued at the first evidence of any form of liver abnormality. It is contraindicated in pre-existing liver disease or dysfunction, and in individuals who have shown hypersensitivity to the drug. Although reactions of an allergic nature are infrequent and seldom severe, those of the anaphylactoid type have occurred on rare occasions. **References:** 1. Isenberg, Henry D.: Health Laboratory Science **2**:163-173 (July) 1965. 2. Fowler, J. Ralph et al: Clinical Medicine **70**:547 (Mar.) 1963. 3. Isenberg, Henry D.: Health Laboratory Science **1**:185-256 (July-Aug.) 1964.

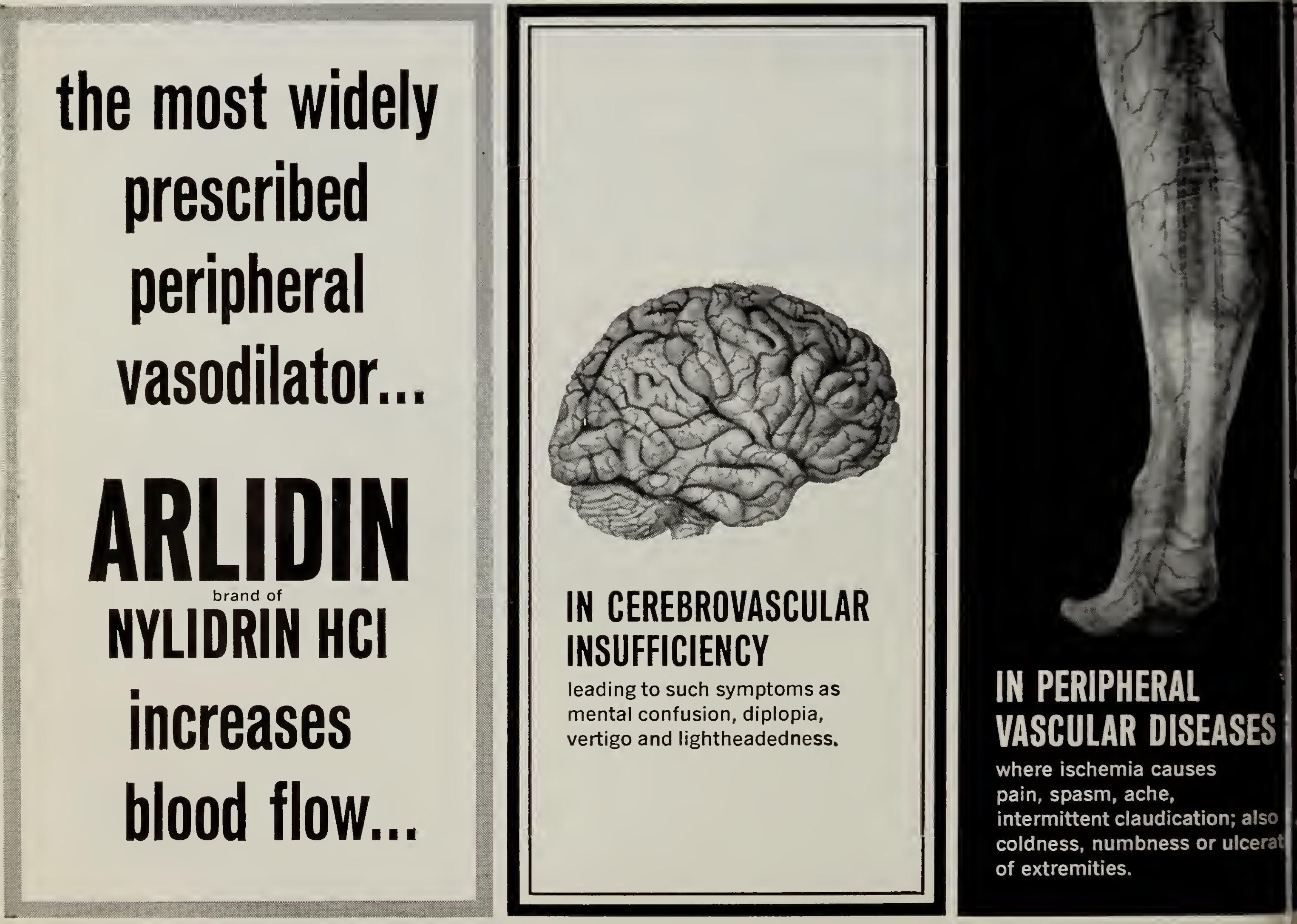
EDITORIALS

THREAT OR OPPORTUNITY?

With the signing by President Johnson of the so-called "Medicare Bill," the American practicing physician is facing some major changes in the manner in which he will go about his work. Reactions to this problem by the doctor have been quite varied; but basically the idea seems to prevail that the legislation, in the overall picture, will not be the best thing for American society. It has been said that it will lower the quality of medicine, increase its cost generally and further undermine the integrity of the American social system.

Few matters pertaining to medicine have caused to develop such an avalanche of writing and speeches as this affair has done. As we read the bill and the vast number of interpretations of it, one becomes aware that the final chapters have not been written. It is obvious that its consequences have, by no means, been considered completely. Nor does the writer think that the most knowledgeable and capable people could possibly be expected to put together anything like an accurate, complete description of a matter with such a vast influence on our society.

Doctors for more than a generation have put up a studied resistance to the development of a social program of medicine that carried with it a high degree of compulsion and the possibilities of siphoning off many of the intangible benefits of medical understanding which our people gain through the system of medical practice that has been carried on so long in the past. Through tradition, much of this was almost a moral law that a changing society has for-



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where ischemia causes pain, spasm, ache, intermittent claudication; also coldness, numbness or ulcerat of extremities.

gotten because it had been taken for granted so long.

We appreciate the position the doctor finds himself in today. It is most necessary that he recognize we are living in a most revolutionary era and change is inevitable. It must be further recognized that the institution of medicine in social systems throughout history has been a most fundamental one and, not unlike religion, upheavals in society will influence the manner in which public opinion will demand that it be dispersed. Thoughtful doctors, taking a look at what has happened, must surely recognize that it is not necessarily a great catastrophe with an everlasting influence destroying the social institution of medicine. It must be recognized, too, that medical men do not have a corner on all of the enlightenment and intelligence. This bill can only be described as a beginning and there are tremendous areas of its application that must be developed and will be developed. Consider who is to do this. If the doctor steps aside with the attitude that he did not want the law, he will not follow the law and those responsible for it must alone solve the problems it creates, he may be sure he will be directed if he continues to practice medicine. And he may well ask himself if he has a right to turn his back to the responsibility that he has, as a physician, to continue his effort to relieve humanity insofar as he can.

But the American physician may today be faced with one of the greatest opportunities to serve that he has ever had. In all types of organization with health matters involved, there are opportunities for the physician to participate. He is in a position in such places to be listened to and his special type of information will, in a large measure, influence the manner in which public organizations of this sort direct their effort. And if the physician, in spite of his day-by-day anxieties over his more detailed problems in trying to relieve suffering and get people well, will give a little of his effort to entering into the program of "Medicare" and help adjust it, guide it and do his best to see that it does the most good and the least harm, it is possible he may come to feel he has not thrown away his high standards of medical practice.

The wind blows, and it cannot be pushed back. It may be channelled, however, and it may be most exciting to make an effort to channel it.

ARCH E. SPELLMAN, M.D.
The Missouri Family Doctor
November 1965

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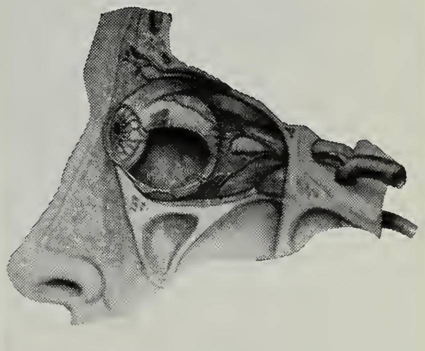

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Editorials (cont'd)

WHOSE IMAGE?

We all know the line about patients respecting their own doctors, but the public (i.e., the same patients) has lost its respect for "doctors." Presumably, the image in trouble is that of organized medicine. But do we, and should we, as individual physicians really place any organization's image above our own? I think not. Therefore although I would like organized medicine, especially ASIM, to be respected by all our publics, general and specific, I am really concerned about individual not collective medical images.

Public relations for medicine is, therefore, personal doctor-patient relationships. We should, I believe, re-examine this relationship, not as public relations image makers, nor ad men, nor public health experts, but as physicians.

Somehow, in the last 25 years, physicians seem to have become confused about their role. For instance, in the patient-doctor relation "who is really in charge?" (Don't answer "the doctor, of course" too quickly.) Our profession, like the unfortunate bankers in the great depression of 30 years ago, has been caught in a social dilemma created by the times. The bankers reacted by hiring the Madison Avenue ad men who have created the current image of "your friendly banker." Physicians, as individuals, have, I believe, been persuaded that they too should woo their client's favor rather than their respect. We must remember that a profession serves needs, not wants. The situation reminds me of parents trying to be "pals" to their children, then wondering why their influence has diminished. Who is in charge, indeed?

I suggest, therefore, that Internists lead the way in reasserting our authority as a necessary corollary to our responsibility.

There is also, I believe, confusion about the individual physician's role in his community. At one time his local citizenship was very special, with equivalent responsibility for community leadership shared by only a few others—the town lawyer, the school teacher and the minister, priest or rabbi. Today here are many educated citizens able to share part of the burden of special citizenship. A physician, unless he has a special interest in community affairs, need not feel any special obligation for any community affairs except those dealing with health.

In those areas of community life dealing with health, the physician, as an individual, must not take a back seat to anyone. We must excel in the organization of medical care at all levels, as well as in medical care itself. We must recognize what we alone can do—and do it.

This means leadership in many aspects of hospital affairs, recently left to administrators; special attention to welfare medical programs, usually left to politicians; and involvement in voluntary health organizations and community health planning, so often left to business leaders.

First and most important, we must care for all of our patients as we have in the past, no matter who the third party may be, even if the third party is our government itself.

Of course we should work to make third-party arrangements ideal for the best of medical care. I suggest the following as ideal circumstances under which even government might serve as a third party:

Usual, reasonable and customary fees produce satisfied physicians. They should be approached.

Secondly, comprehensive coverage interferes least with the availability and the decisions of medical care, providing satisfied physicians and patients. Insured medical care should be broad in scope.

And finally, only review by practicing physicians of the quality of care and the use of facilities is effective and acceptable. Professional review committees of physicians are here to stay.

When these conditions are satisfactorily met, the identity of the third party holding the health stakes does not matter.

We can, I believe, take good care of patients under government programs, and ASIM and our component societies will work to create the necessary conditions. Your personal public image as a physician, the only image which really matters, demands it.

ROBERT E. WESTLAKE, M.D.
The Internist
Sept.-Oct., 1965

(Doctor Westlake is President of the American Society of Internal Medicine. Although his views were expressed primarily toward members of that organization, the EDITORS believe that all physicians will find his thoughts stimulating and challenging.)

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"All Interns are Alike"

It stands to reason. They all go through the same training; they all have to pass the same tests; they all have to measure up to the same standards; they all are underpaid, too. Therefore, all interns are alike.

That's utter nonsense, of course. But it's no more nonsensical than what some people say about aspirin. Namely: since all aspirin is at least supposed to come up to certain required standards, then all aspirin tablets must be alike.

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You might also say that all interns aren't alike, either.

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Seven-Up quenches thirst quickly and completely by restarting the natural moisture in the mouth and throat. We sincerely hope you enjoy 7-Up and speak well of it for your friends and patients.

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New Members

Fernando V. Basantz, M.D., 6601 Holmes St., Kansas City, has become a member of Jackson County Medical Society. Dr. Basantz is a native of Corpus Christi, Texas, received his preliminary education at Atene Fuente, Mexico, and his M.D. degree at Nuevleon Fae de Medicina in 1956. He specializes in general practice.

Calvin E. Beck, M.D., 4320 Wornall Rd., Kansas City, has become a member of Jackson County Medical Society. Dr. Beck is a native of McCook, Nebraska, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1960. He specializes in urology.

H. Waldo Bird, M.D., 1402 S. Grand Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Bird is a native of Detroit, Michigan, received his preliminary education at Yale University and his M.D. degree at Harvard Medical School in 1943. He specializes in psychiatry.

Lee Blount, Jr., M.D., 3737 N. Kingshighway Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Blount is a native of Cleveland, Ohio, received his preliminary education at St. Louis University and his M.D. degree at Howard University in 1958. He specializes in surgery.

Arthur M. Brady, M.D., 3039 Brooklyn, Kansas City, has become a member of Jackson County Medical Society. Dr. Brady is a native of Kansas City, Kansas, received his preliminary education at Lincoln University and his M.D. degree at the University of Kansas in 1958. He specializes in general practice.

Thomas F. Eggleston, M.D., 11745 Olive St. Rd., St. Louis, has become a member of St. Louis Medical Society. Dr. Eggleston is a native of Sioux City, Iowa, received his preliminary education at St. Louis University and his M.D. degree at St. Louis University in 1961. He specializes in ophthalmology.

William A. Geiger, Jr., M.D., 3001 Wyandotte St., Kansas City, has become a member of Jackson County Medical Society. Dr. Geiger is a native of Grand Island, Nebraska, received his preliminary education at Rockhurst College and

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COMPOSITION:
diperodon 1.0%; oxyquinoline benzoate 0.1% in a special ointment base.

INDICATIONS:
Provides temporary palliation of pain that may result from hemorrhoidectomy and from common anorectal disorders such as hemorrhoids, anal fissures, pruritus ani.

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OINTMENT
CHILL
↑PULL APART↑

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COMPOSITION:
Each suppository, weighing approximately 2.6 Gm., contains diperodon 1.0%; urea 10.0%; oxyquinoline benzoate 0.1% in a special hydrophilic suppository base. A unique shape keeps the suppository in intimate contact with mucous membranes.

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New Members (cont'd)

his M.D. degree at the University of Nebraska in 1951. He specializes in anesthesiology.

Paul E. Lacy, M.D., 660 S. Euclid Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Lacy is a native of Trivinay, Ohio, received his preliminary education at Ohio State University and his M.D. degree at Ohio State University in 1948. He specializes in pathology.

Daniel C. Martin, M.D., 24th & Cherry, Kansas City, has become a member of Jackson County Medical Society. Dr. Martin is a native of Booneville, Arkansas, received his preliminary education at Oachita College and his M.D. degree at the University of Kansas in 1958. He specializes in internal medicine.

John H. Payne, M.D., 915 N. Grand Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Payne is a native of Idaho Falls, Idaho, received his preliminary education at the University of Idaho and his M.D. degree at Washington University in 1960. He specializes in orthopedics.

David E. Perkins, M.D., 100 N. Euclid Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Perkins is a native of St. Louis, received his preliminary education at Washington University and his M.D. degree at Washington University in 1955. He specializes in radiology.

Stephen L. Post, M.D., 100 N. Euclid Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Post is a native of St. Louis, received his preliminary education at Princeton University and his M.D. degree at Columbia University in 1957. He specializes in psychiatry.

Edward M. Ring, M.D., 3720 Washington Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Ring is a native of St. Louis, received his preliminary education at Georgetown University and his M.D. degree at St. Louis University in 1956. He specializes in thoracic surgery.

Edward J. Shaw, M.D., 7430 Virginia Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Shaw is a native of New York, New York, received his preliminary education at Columbia University and his M.D. degree at Yale University in 1937. He specializes in surgery.

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Indications: 'Deprol' is useful in the management of depression, both acute (reactive) and chronic. It is particularly useful in the less severe depressions and where the depression is accompanied by anxiety, insomnia, agitation, or rumination. It is also useful for management of depression and associated anxiety accompanying or related to organic illnesses.

Contraindications: Benactyzine hydrochloride is contraindicated in glaucoma. Previous allergic or idiosyncratic reactions to meprobamate contraindicate subsequent use.

Precautions: *Meprobamate*—Careful supervision of dose and amounts prescribed is advised. Consider possibility of dependence, particularly in patients with history of drug or alcohol addiction; withdraw gradually after use for weeks or months at excessive dosage. Abrupt withdrawal may precipitate recurrence of preexisting symptoms, or withdrawal reactions including, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, the dose should be reduced and operation of motor vehicles or machinery or other activity requiring alertness should be avoided if these symptoms are present. Effects of excessive alcohol may possibly be increased by meprobamate. Grand mal seizures may be precipitated in persons suffering from both grand and petit mal. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

Side effects: Side effects associated with recommended doses of 'Deprol' have been infrequent and usually easily controlled. These have included drowsiness and occasional dizziness, headache, infrequent skin rash, dryness of mouth, gastrointestinal symptoms, paresthesias, rare instances of syncope, and one case each of severe nervousness, loss of power of concentration, and withdrawal reaction (status epilepticus) after sudden discontinuation of excessive dosage.

Benactyzine hydrochloride—Benactyzine hydrochloride, particularly in high dosage, may produce dizziness, thought-blocking, a sense of depersonalization, aggravation of anxiety or disturbance of sleep patterns, and a subjective feeling of muscle relaxation, as well as anticholinergic effects such as blurred vision, dryness of mouth, or failure of visual accommodation. Other reported side effects have included gastric distress, allergic response, ataxia, and euphoria.

Meprobamate—Drowsiness may occur and, rarely, ataxia, usually controlled by decreasing the dose. Allergic or idiosyncratic reactions are rare, generally developing after one to four doses. Mild reactions are characterized by an urticarial or erythematous, maculopapular rash. Acute nonthrombocytopenic purpura with peripheral edema and fever, transient leukopenia, and a single case of fatal bullous dermatitis after administration of meprobamate and prednisolone have been reported. More severe and very rare cases of hypersensitivity may produce fever, chills, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, anaphylaxis, stomatitis and proctitis. Treatment should be symptomatic in such cases, and the drug should not be reinstituted. Isolated cases of agranulocytosis, thrombocytopenic purpura, and a single fatal instance of aplastic anemia have been reported, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity has been reported, usually after excessive meprobamate dosage. Suicidal attempts may produce lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

Dosage: Usual starting dose, one tablet three or four times daily. May be increased gradually to six tablets daily and gradually reduced to maintenance levels upon establishment of relief. Doses above six tablets daily are not recommended even though higher doses have been used by some clinicians to control depression and in chronic psychotic patients.

Supplied: Light-pink, scored tablets, each containing meprobamate 400 mg. and benactyzine hydrochloride 1 mg.
Before prescribing, consult package circular.

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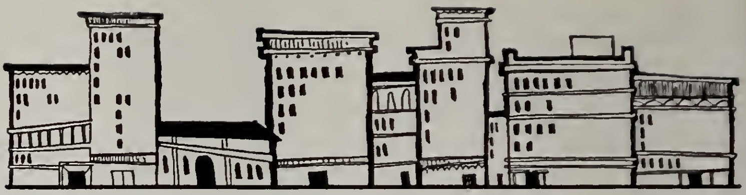
From the Medical Schools



ST. LOUIS UNIVERSITY

Dr. James G. Janney, Jr., professor of clinical medicine at the St. Louis University School of Medicine, has been elected president of the University Hospitals medical staff. Dr. Janney succeeds retiring president Dr. Gene B. Starkloff who is associate professor of clinical surgery.

Other new officers are: Dr. William Stoneman, III, assistant professor of clinical surgery, vice president and Dr. James M. Martin, senior instructor in radiology, who was re-elected secretary.

The creation of the Henry J. Scherck, M.D. Memorial Fund for Urology, through a grant by the trustees of the Scherck Charitable Foundation, has been announced by Dr. Robert H. Felix, dean, School of Medicine. Together with gifts from members of the Scherck family and friends, the fund will be used for the promotion of research or education in the field of urology. The late Dr. Scherck was a pioneer urological surgeon, and was for many years, associate professor of urology at the St. Louis University School of Medicine.

John B. Warner, Jr., director of the St. Louis University Hospitals, has resigned effective August 31, 1966. Mr. Warner said he resigned to establish J. B. Warner and Associates, a hospital consultancy firm that will be headquartered in St. Louis.

WASHINGTON UNIVERSITY

Dr. Konrad E. Bloch, 1964 Nobel Prize winner, presented the ninth Philip A. Shaffer Lecture at Washington University School of Medicine. Dr. Bloch, Higgins Professor of Biochemistry at Harvard University, spoke on comparative aspects of lipid biosynthesis. He received the Nobel Prize for Medicine and Physiology for his pioneering research on intermediary metabolism in living cells.

The Arthur R. Lindburg Laryngeal Research Laboratory was dedicated early in December. The laboratory is named for Mr. Lindburg, a St. Louis businessman, in appreciation of his support of research on the larynx over the past few years.

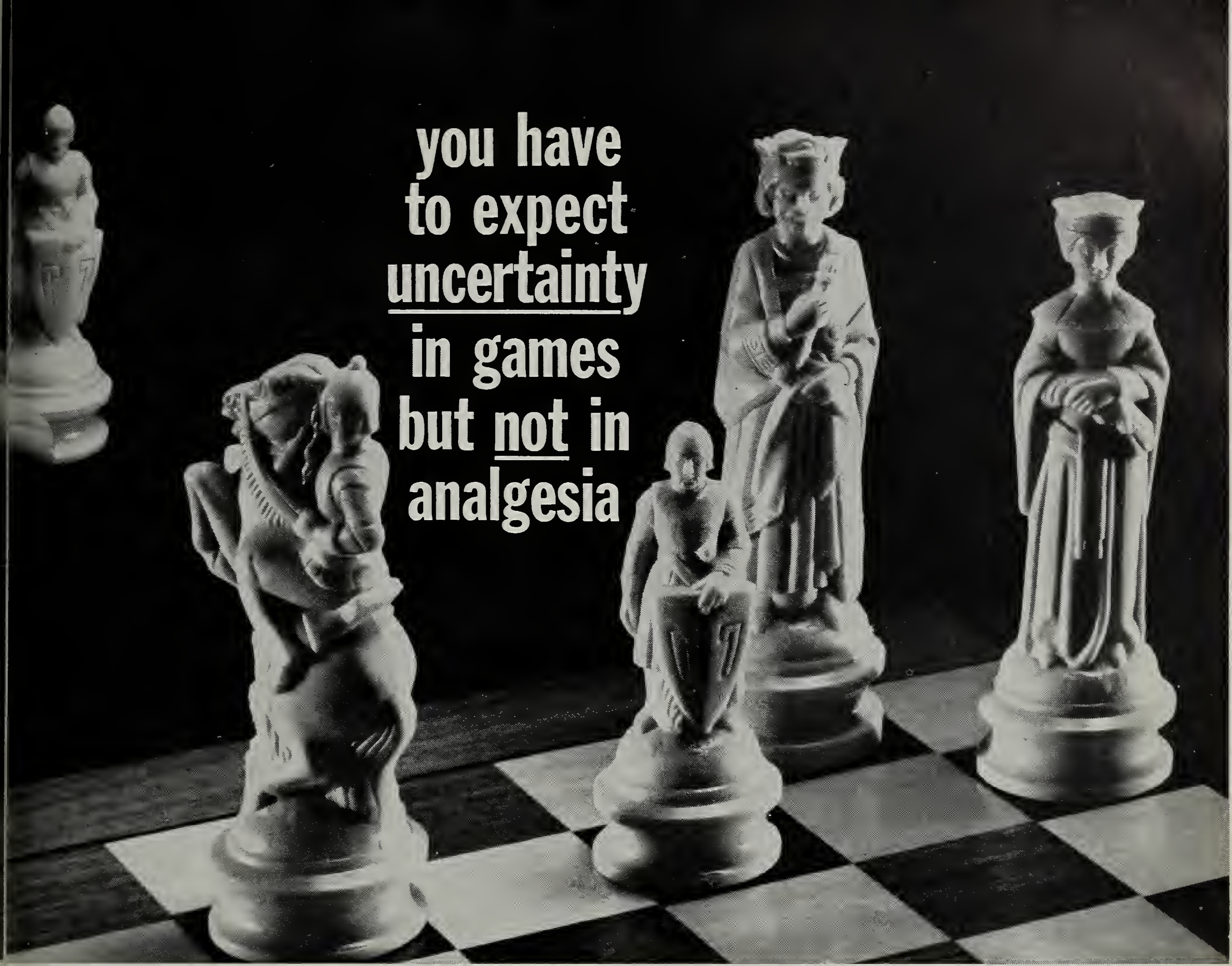
Dr. Hugh Chaplin, Jr., has been named Kountz Professor of Preventive Medicine. He becomes the first faculty member to hold the newly established position, which honors the late Dr. William B. Kountz, a medical school faculty member for 35 years.

UNIVERSITY OF MISSOURI

Dr. Carl J. Marienfeld, professor of Community Health and Medical Practice and Director of the University's Inter-Divisional Health Related Research, has been named director of the University's newly established Environmental Health Center. Purpose of the new Center is to coordinate research and educational activities on the four campuses which are concerned with the relationship of man's health to his environment.

A Spanish edition of a book by an MU professor has been released in the U. S. *Laboratory Tests in Common Use* is the title of the American version, published originally in 1956 and now in the third edition. The author is Dr. Solomon Garb, associate professor of pharmacology. A British edition of the book has been published, also.

Dr. Robert L. Jackson, professor and chairman of the Department of Pediatrics, has been named to another term on the Food and Nutrition Board of the National Academy of Sciences-National Research Council and as Chairman of the Committee on Child Nutrition. He has been returned, also, to the Committee on Food and Nutrition of the American Diabetes Association.



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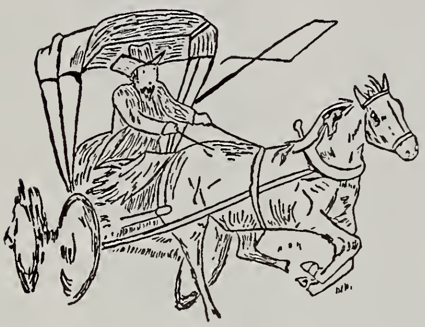
LEO H. POLLOCK, M.D.

Missouri Medicine in Review



FORTY YEARS AGO

Sherwood Moore, M.D., X-ray Department, Washington University Medical School, has published his paper entitled, "The Development and Application of Cholecystography," in the January 1926 issue of Missouri Medicine. The paper was read before the First International Congress of Radiology in London, July 3, 1925. It describes the work of Evarts A. Graham, Warren H. Cole and Glover H. Copher, who were the first to successfully develop cholecystography by the use of halogenated phenolphthaleins.

Dr. Frank R. Teachenor of Kansas City was elected Treasurer of the Western Surgical Association at the annual meeting held in Wichita. —An unusual duplication of names has brought considerable embarrassment to the Drs. J. J. Singer. The Dr. J. J. Singer of St. Louis has been confused with the Dr. J. J. Singer recently appointed superintendent of Koch Hospital, the hospital for tuberculosis maintained by the City of St. Louis.

The St. Louis County Medical Society held its annual dinner and election of officers December 9 at Van Horn's Farm House, and a most wonderful evening was enjoyed by all of the 54 members and guests who attended. The following officers were elected for 1926: President, Dr. J. A. Townsend, Eureka; Vice President, Dr. H. N. Corley, Webster Groves; Secretary-Treasurer, Dr. Clyde P. Dyer, Webster Groves (reelected).

TWENTY-FIVE YEARS AGO

The Boone County Medical Society met at the Boone County Hospital in Columbia, December 3, with Dr. F. E. Dexheimer presiding. The following new officers were elected: President, Dr. William B. Brown, Columbia; Vice President, Dr. M. E. Cooper, Columbia; Secretary-Treasurer, Dr. O. F. Bradford, Columbia. Dr. D. A. Robnett called attention to the outstanding honor that had been given to Dr. M. Pinson Neal in his recent election as President-Elect of the Southern Medical Association. He felt that the Society was signally honored by having as a member a man who had thus attained such national recognition.

Dr. Richard S. Weiss of St. Louis was elected President of the American Academy of Dermatology and Syphilology at the annual session of the Academy in Chicago.—Dr. Claude J. Hunt of Kansas City was named chairman of the Section on Surgery of the Southern Medical Association at its meeting in Louisville.

TEN YEARS AGO

The Seventh Annual meeting of the Missouri Academy of General Practice, held at Jefferson City, was an outstanding success and showed the results of previous experience. The following new officers were elected: President-Elect, Dr. Charles Martin, St. Louis; Vice President, Dr. Roy W. Pearse, Nevada; Secretary-Treasurer, Dr. J. H. Trollinger, Jackson; board of directors, Drs. W. C. Allen of Glasgow, A. E. Spelman of Smithville and John T. Crowe of Cape Girardeau.

The Cass County Democrat carried an article with pictures about J. S. Triplett, M.D., Harrisonville, announcing his 90th birthday on December 2 and telling the story of his life.—Word has been received by H. G. Frame, M.D., Mountain Grove, of the death of Flagge Philip Wesley, M.D., Alexandria, Va., on November 6. Dr. Wesley was a graduate of Washington University School of Medicine in 1902 and was a roommate of Dr. Frame's, who graduated that same year.

The annual pilgrimage of the St. Louis Medical Society to the grave of Dr. William Beaumont was made on November 21. The address was presented by Daniel L. Sexton, M.D., St. Louis, president of the Society.—For being the oldest graduate of the University of Missouri medical alumni present at Homecoming recently, A. J. Campbell, M.D., Sedalia, was presented a University of Missouri serving tray.

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Information for Contributors

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Illustrations should be glossy prints or drawings in India ink on white paper. They should not be mounted and name of author and figure number should be penciled lightly on the backs. Legends should appear on a separate sheet. Colored illustrations will be used when suitable if author assumes the actual cost.

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Side effects: Drowsiness may occur and, rarely, ataxia, usually controlled by decreasing the dose. Allergic or idiosyncratic reactions are rare, generally developing after one to four doses. Mild reactions are characterized by an urticarial or erythematous, maculopapular rash. Acute nonthrombocytopenic purpura with peripheral edema and fever, transient leukopenia, and a single case of fatal bullous dermatitis after administration of meprobamate and prednisolone have been reported. More severe and very rare cases of hypersensitivity may produce fever, chills, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, anaphylaxis, stomatitis and proctitis. Treatment should be symptomatic in such cases, and the drug should not be reinstituted. Isolated cases of agranulocytosis, thrombocytopenic purpura, and a single fatal instance of aplastic anemia have been reported, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity has been reported, usually after excessive meprobamate dosage. Suicidal attempts may produce lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

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MSMA Formulates Policy on 'Medicare'

The Missouri State Medical Association is moving to meet the problems that will be involved in implementation of PL 89-97 ("medicare"). The Council at its December 11-12 meeting adopted a general policy statement relating to the new law, established a special committee to study the question of utilization review, charged the Medical Economics Committee to examine Title XIX of the new law with the view of preparing supporting state legislation and adopted a resolution disapproving the merging of physician and hospital charges in a single bill.

The resolution on separate billing (complete text on Page 92) was adopted at the request of the "hospital based" medical specialists, primarily the radiologists and pathologists, whose own national and state organizations have already adopted similar positions. The services of these specialists narrowly missed being brought under the hospital service portion, Part A, of PL 89-97 when Congress was considering the measure earlier this year. Leaders of the specialty groups believe that if they allow their fees to be merged with general hospital charges they will find it extremely difficult to remain free of the "hospital service" brand and all of its connotations.

The resolution puts the State Medical Association on record as disapproving and considering as unethical "any contract or other arrangement whereby a physician merges his professional fee with hospital charges."

The Council approved a motion that the two Blue Shield plans in Missouri be recommended to the Department of Health, Education and Welfare as insurance carriers for Part B of "medicare." Physicians in at least two areas of the state indicated displeasure at Blue Shield operations and policies, but Council members agreed that despite any shortcomings Blue Shield would be more responsive to the philosophy of the medical profession than any of the commercial carriers. HEW is not bound to follow or even consider the Association's recommendations.

A special Utilization Study Committee was named to look into the problems of hospital utilization review and draft guidelines which can be used in establishing hospital and nursing home review committees at the local level as required by the new law. The proposed Committee members are Doctors: Z. Blaine Hibbard, Kansas City, Chairman; C. Gordon Stauffacher, Sedalia; William H. Snead, Jr., Springfield; Albert M. Repetto, St. Louis; B. J. Bass, Salem; Wyeth Hamlin, Hannibal; and Clement B. Grebel, St. Louis.

The standing Medical Economics Committee was instructed to begin studying Title XIX of the new "medicare" law, which authorizes revision and expansion of the existing Kerr-Mills program. This will involve possible sponsorship of implementing legislation in the next regular sesson of the Missouri General Assembly. For this reason the Committee was augmented with

(Continued on page 89)

AMA House Approves Missouri Resolutions

The 1965 Interim Session of the American Medical Association was held in Philadelphia, November 28 to December 1, and much of the work of the House of Delegates centered on the new "medicare" law, PL 89-97. The House reaffirmed its support of the "usual and customary" fee concept as the basis for reimbursing physicians who participate in government health care programs, but also recognized the "prevailing" fee plan of the National Association of Blue Shield Plans as an acceptable alternative. In effect the AMA left the final decision on "usual and customary" vs. "prevailing" as a matter of local option.

The Missouri State Medical Association was represented at the Session by: AMA Delegates Durward G. Hall, J. Loren Washburn, Arthur W. Neilson, Richard H. Kiene and Alternate Delegate Thompson E. Potter. The MSMA delegation introduced three resolutions, all of which were acted on favorably by reference committees and the House.

One of the Missouri resolutions authorizes the AMA Executive and Legal Staffs to study the possibility of testing the constitutionality or legality of PL 89-97 or any of its implementing regulations. The second resolution calls for a campaign to have the Surgeon General designated as the administrator of all federal medical and health programs. The third resolution commends physicians who are in government service. The Missouri Delegates received considerable favorable comment and commendation from other delegates for the three proposals.

After lengthy discussion the House endorsed the idea of a $25.00 increase in AMA dues, effec-

(Continued on page 90)

MSMA Policy (Cont'd)

the addition of three members who have been familiar with the Kerr-Mills and vendor programs in Missouri. They are Doctors: Avery Rowlette, Moberly; Stanley S. Peterson, Springfield; and Robert Tanner, Jefferson City.

The Council also approved an MSMA policy statement on PL 89-97, designed to guide the Association and its physician-members in their relations with "medicare." The statement was published in its entirety in the January issue of Missouri Medicine.

On other matters, the Council agreed with its Budget Committee that a dues increase will be necessary next year to maintain present and proposed MSMA activities. The recommendation for a $10.00 a year increase will be presented to the House of Delegates for consideration at the Annual Session in March. (See *President's Message* in January issue.)

A proposal that invitations for membership and dues statements in the Missouri Medical Political Action Committee be mailed with the bills for MSMA dues was approved. Mr. Tom O'Brien reported that several states are following this procedure. Attorneys for the AMA and various states agree that the not-for-profit status of organizations will not be jeopardized by such a practice. Due to reservations about this legal point, St. Louis County Medical Society asked that the MMPAC information not be included in dues bills to its members. The request will be honored.

The Publication Committee recommended that subscriptions to Missouri Medicine be offered to members of the Missouri Association of Osteopathic Physicians and Surgeons for possible use as a part of a continuing education program. The proposal was approved pending a reexamination of the journal's financial condition and an appraisal of present subscription rates.

The Council was informed that an agent of the Internal Revenue Service has been checking the records of the Association and has indicated that IRS may seek to tax income which the Association receives from Annual Session exhibits. A motion was approved authorizing the Executive and Legal staff to oppose any move which would expose exhibit revenue or journal advertising income to taxation, since exhibits and advertising are integral parts of the Association's scientific and educational program.

Dr. Arthur W. Neilson reported on the AMA Interim Session which was held in Philadelphia, November 28 to December 1. Three resolutions which were introduced in the House of Delegates by the Missouri delegation received favorable action. (See separate story.)

Council members attending the meeting were:

Hector W. Benoit, Jr., M.D., Chairman, 7th District
David N. Kerr, M.D., Vice Chairman, 3rd District
Robert A. Mayer, M.D., 4th District
James C. Cope, M.D., 5th District
Rolla B. Wray, M.D., 6th District
Doyle C. McCraw, M.D., 8th District
E. A. Stricker, M.D., 9th District
W. D. English, M.D., 10th District
Paul R. Whitener, M.D., MSMA President
Byron M. Stuart, M.D., MSMA President-Elect
John I. Matthews, M.D., MSMA Secretary
Walter T. Gunn, M.D., MSMA Treasurer

The next meeting of the Council will be held on February 12 and 13, 1966.

This Council report covers only the highlights of the December meeting. The complete official report of Council proceedings is on file in the Executive Office of MSMA and copies have been sent to all members of the Council and to component medical societies.

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AMA House (Cont'd)

tive January 1, 1967. Final action on this matter cannot be taken before the Annual Session in June. Indications are that there will be additional heated debate when the subject comes up at that time.

Proposals calling for AMA support of legislation to legalize abortion and sterilization under certain circumstances were referred to the Board of Trustees for further study. The House reaffirmed its 1964 policy statement on contraceptives and endorsed appropriate legislation which would allow all physicians to disseminate birth control information in keeping with the 1964 policy.

The House also approved a plan which would tend to stabilize its size at about 250 members. This was one of the recommendations of the Committee to Review the Organization of the House (the Gundersen Committee) which filed its final report.

In other matters relating to PL 89-97 the House:

Approved eight statements of policy designed to guide the private physician in billing and collecting his fees for medical services under any government health care program.

Proposed an amendment to PL 89-97 which would eliminate the requirement that a patient first has to be hospitalized in order to qualify for nursing home care.

Recommended that a simple "agreement for payment" between patient and physician be recognized as valid evidence that medical service has been rendered.

Urged the Department of Health, Education and Welfare to consult with practicing physicians in formulating regulations under both Titles XVIII and XIX of the "medicare" law.

Approved several resolutions aimed at clearing the confusion over the definitions of and the differences between "utilization review" and "claims review."

MSMA President Paul R. Whitener and President-Elect Byron M. Stuart also attended the meeting and assisted the Delegates in non-official and social activities.

This is a summary of some of the highlights of the AMA Interim Session which may be of interest to Missouri physicians. For more detailed reports of the meeting, readers are urged to refer to the November 29, December 6 and December 13, 1965 issues of *The AMA News;* and the December 6 and December 13, 1965 issues of *The Journal of the American Medical Association.*

Social Security Announces Disability Form Change

Earl L. Loyd, M.D., medical consultant for the Missouri Vocational Rehabilitation agency, has announced a change in the reporting format for physicians providing medical information for persons applying for Social Security disability benefits. The new form will be a standard medical narrative rather than the previously used questionnaire-type form.

Studies in six states demonstrated that doctors could give a clearer, more complete clinical picture of a claimant by using a reporting format rather than a questionnaire. As a result, the disability program is introducing nationwide the revised form designed to provide ample space and a more effective format for detailing the patient's history, physical and laboratory findings.

It is hoped that the new form will help the physician to transcribe those parts of the patient's chart pertinent to his impairment. Such information is necessary for evaluating a patient's remaining capacity for work. By providing such data the physician is helping his patients receive prompt, sound handling of his claim.

If additional data is needed for an evaluation, the reviewing physician at the state agency may call the attending physician's office for more information. Occasionally the state agency physician may invite the attending physician to provide additional studies for a fee in accordance with the Vocational Rehabilitation fee schedule. Experience has shown that such phone calls generally take under five minutes. In states where this technique has been tested, reporting doctors volunteered the opinion that they prefer such calls to letters of inquiry. Also, doctors said they welcome the chance to discuss the case with colleagues at the state agency.

It may be of interest to physicians that last year approximately 40,000 Missourians received Social Security disability benefits in the amount of 2½ million dollars a month.

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SEPARATE BILLING RESOLUTION

Whereas, radiology and pathology constitute an integral part of the practice of medicine, and radiologists and pathologists are physicians, practicing a specialty in medicine in the same way as surgeons, internists, and other specialists; and

Whereas, radiologists and pathologists in a hospital must be members of the medical staff, with the same qualifications, rights, privileges, duties and responsibilities as other physician members of the medical staff; and

Whereas, any arrangement or contract, under which a radiologist or pathologist, or any other physician pools his professional fee with hospital charges tends to identify that physician as a part of hospital service and places him in the category of a hospital employee; and

Whereas, any such arrangement between hospital and physician conceals from the patient and the public the professional fee of the physician, and the charge of the hospital for facilities, supplies, technical and auxiliary personnel, and the patient has the right to know who is being paid for what; and

Whereas, such a contractual arrangement tends to eliminate competition between physicians based upon proficiency and quality of service to patients, and substitutes competition for hospital contacts based upon a willingness to accept hospital dictated terms, which is a form of solicitation of patients; and

Whereas, inclusion of the professional service of radiologists and pathologists, as hospital services constitutes a serious threat towards the ultimate inclusion of all physician specialists as hospital-based hospital employees; and

Whereas, the House of Delegates of the American Medical Association has, on many occasions, stated as a principle that "A physician should not dispose of his professional attainments or service to any hospital, corporation, or lay board by whatever name called, or however organized under terms or conditions which permit the sale of the service of that physician by such agency for a fee"; and

Whereas, Public Law 89-97, Medicare, makes it mandatory that no physican's professional fee be included under the Hospital Service Component, Part A., of the Law; and

Whereas, this necessitates separate billing of radiologists' and pathologists' professional fees from that of the Hospital Service Component in the radiological and pathological services on Medicare patients; and

Whereas, having a different billing system for Medicare than for non-Medicare patients would result in confusion, and a uniform method of handling all radiological and pathological billing is preferred; and

Whereas, this system of separate billing has been tried and has been in effect in a number of hospitals for years including some university hospitals and has proven itself to be a most satisfactory system; and

Whereas, the American College of Radiology did, on October 1, 1965, adopt the policy of separate billing by radiologists; and

Whereas, on October 3, 1965, the House of Delegates of the American Medical Association adopted this policy of separate billing by all physicians as follows:

> "Hospital-based medical specialists are engaged in the practice of medicine. The fees for services of such specialists should not be merged with hospital charges. The charges for the services of such specialists should be established, billed and collected by the medical specialist in the same manner as are the fees of other physicians. The American Medical Association intends to continue vigorously its efforts to prevent inclusion in the future of the professional services of any practicing physician in the hospital service portion of any health care legislation."

and,

Whereas, on October 26, 1965, the Greater St. Louis Society of Radiologists did, unanimously, approve and accept the policies of separate billing by radiologists and other physicians as adopted by the American College of Radiology and the American Medical Association; and

Whereas, on November 10, 1965, the Greater Kansas City Radiological Society did, and the Missouri Radiological Society did, unanimously, approve and accept these same policies on separate billing by radiologists and other physicians as adopted by the American College of Radiology and the American Medical Association; and

Whereas, the College of American Pathologists did on October 21, 1965, adopt the policy of separate billing for pathologists, therefore, be it

Resolved, that the charges for the services of hospital-based medical specialists should be established, billed, and collected, by the medical specialists in the same manner as are the fees of other physicians; and be it further

Resolved, that the Missouri State Medical Association define as unethical and make known its disapproval of any contract or other arrangement whereby a physician merges his professional fee with hospital charges; and be it further

Resolved, that the Missouri State Medical Association form a committee to dispense information and assist its members in the implementation of these policies of separate billing by radiologists, pathologists, and all other physicians, using all appropriate legal, ethical, and communication channels available; and be it further

Resolved, that the Missouri State Medical Association forward a copy of this resolution to each of its members, to the two Blue Cross plans of Missouri, to the two Blue Shield plans of Missouri, to such insurance carriers it deems advisable, to the Missouri Hospital Association and other pertinent associations, and include with this a request that they cooperate with the Missouri State Medical Association in its attempt to effectuate this principle of separate billing and abolish contractual arrangements between physicians and hospitals which in any way violate the spirit of this resolution.

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Each 45 cc. (3 tablespoonfuls) contains: alcohol, 15%; pipradrol hydrochloride, 2 mg.; thiamine hydrochloride (vitamin B_1) (10 MDR[*]), 10 mg.; riboflavin (vitamin B_2) (4 MDR), 5 mg.; pyridoxine hydrochloride (vitamin B_6), 1 mg.; niacinamide (5 MDR), 50 mg.; choline[†], 100 mg.; inositol[†], 100 mg.; calcium glycerophosphate, 100 mg. (supplies 2% MDR for calcium and for phosphorus) and 1 mg. each of the following: cobalt (as chloride), manganese (as sulfate), magnesium (as acetate), zinc (as acetate), and molybdenum (as ammonium molybdate).

[*] Multiple of adult Minimum Daily Requirement supplied.
[†] The need for these substances in human nutrition has not been established.

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Indications: 1. Functional fatigue such as that often associated with: a depressing life experience or stressful time of life; advancing years; convalescence; limited activity or confinement. 2. Poor appetite and vitamin-mineral deficiency as they occur in: patients having faulty eating habits; geriatric patients who are losing interest in food; patients convalescing from debilitating illness or surgery.

Contraindications: As with other drugs with CNS-stimulating action, Alertonic is contraindicated in hyperactive, agitated or severely anxious patients and in chorea or obsessive-compulsive states.

Side Effects: Reports of overstimulation have been rare. Patients who are known to be unduly sensitive to the effects of stimulant drugs should be observed carefully in the initial stages of treatment.

Dosage: Adults, 1 tablespoonful; children (over 15 years old), 1 to 2 teaspoonfuls; children (4 to 15 years old), 1 teaspoonful. To be taken three times daily 30 minutes before meals.

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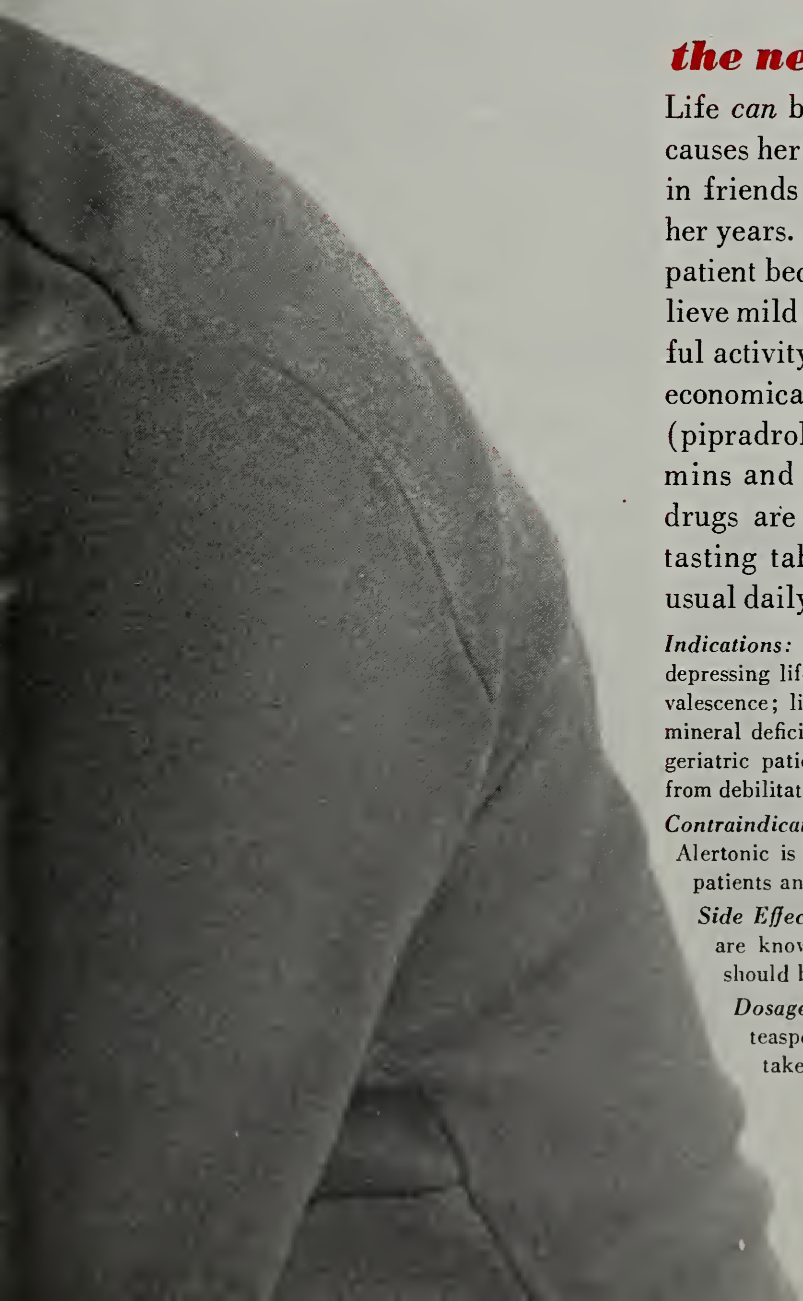


WILLIAM J. SHAW, SR., M.D.
Fayette

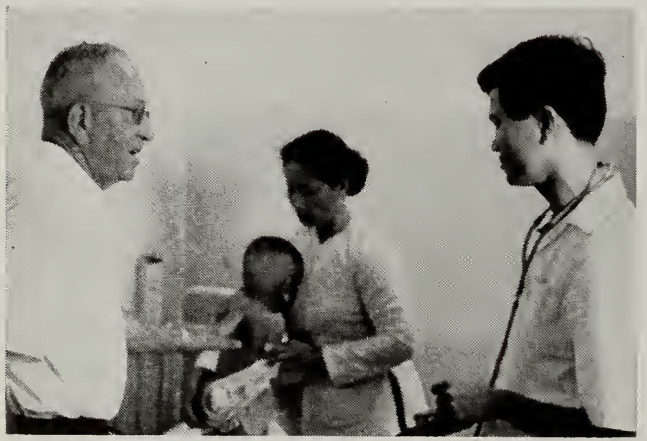
Viet Nam: Land of Medical Need

When President Johnson requested help from the medical profession of the U. S. in caring for civilians in Viet Nam—where doctors are in radically short supply—he initiated a program which developed many ramifications.

Physicians from other countries were already in Viet Nam. Australia, New Zealand, the Philippines, Korea, Italy and others had sent groups of doctors. Most of these were functioning as surgical teams. The request from the President in July of last year called for general surgeons, orthopedic surgeons and general practitioners to participate in a program to be designated as *Project Viet Nam.* Through this project American physician volunteers would go to Viet Nam on a rotation basis to assist in the medical care of civilians in that country. The need was obvious. In a country with a population of more than 17-million people, there were approximately 700 licensed Vietnamese physicians, 500 of whom were serving in the armed forces.

As the first step in the new program, volunteer physicians from the U. S. would be assigned to the four province hospitals on the east coast of Viet Nam. They would work with Vietnamese medical personnel and the various visiting surgical teams at those hospitals, where the supply of civilian physicians was rapidly diminishing as the war accelerated. The Americans would serve under the supervision of the surgical team leaders who had been in these hospitals for some time prior to the organization of *Project Viet Nam.* It must be understood that these hospitals not only serve the civilian population, with the normal health problems of a heavily populated country where primitive conditions prevail in many areas, but also provide care for civilian casualties of the war.

After briefings in Washington, D. C. and Saigon, the first group of five general practitioners were assigned to the Vietnamese province hospitals at Nha Trang, Qui Nhon, Bien Hoa and two to Da Nang. There was no available method for the five new doctors to maintain contact with each other or to compare problems until the two-month tour had ended and the group re-met at Saigon to return to their homes. Each doctor had been busy and could well answer questions relative to his own area, but the provinces differed as much in their respective needs as medical training programs do in the States. All of the general practitioners were assigned to province hospitals in areas quite similar in proximity to the active combat zones. U. S. casualties in the area were treated by American service physicians and hospitals, but civilian casualties from war activities were treated usually in the nearest province hospital. Unquestionably, each of the first quintet of general practitioners sent over by *Project Viet Nam* will have different reports due to the different needs of the civilians and the Viet Nam army casualties in their individual areas. An attempt will be made here to relate the experiences of one of these, the general practitioner sent to the hospital at Nha Trang, a 400-bed facility.



Doctor Shaw makes rounds with the local Vietnamese pediatrician just before the latter leaves Nha Trang for a new assignment in Saigon. The American general practitioner suddenly found himself in charge of a 49-bed pediatric ward with 56 patients!

The morning this G.P. arrived at the assigned location he was introduced to the members of the surgical team who were responsible for surgical admissions. The team consisted of: a public health surgeon, the leader of the surgical team; an assistant surgeon; an orthopedic surgeon (who arrived about ten days later); four American nurses under United States Operations

Mission; one nurse anesthetist; one laboratory technician; and a chief nurse advisor. An administrator for the hospital had been lent by the army, and a retired naval hospital corpsman served as X-ray technician. To this group three native interpreters were added by USOM.

In addition to the Province Medical Chief (Dr. Luc) the civilian members of the hospital's professional staff included one pediatrician, one internist and a large group of excellent paramedical personnel, all of whom were assigned to the surgical team. Also included was the department of obstetrics, under the supervision of an excellently trained Vietnamese female obstetrician, and a team of native nurses. This department, though independent, was naturally in close contact with the surgical team. All nurses, except those on the surgical team, were Vietnamese-trained. As in all groups, some of the nurses were excellently trained and some were still in the embryonic stages of becoming registered nurses.

A brief description of the Nha Trang Province hospital and its facilities may be of some interest. The grounds cover a rather large area on which are located the hospital and auxiliary buildings. Part of the original building has been remodeled, and much of the complex is still in the construction stage. The hospital proper consists of a long, centrally located building with a wing on each end of the main structure. This building houses one emergency room, routine offices, the entire surgical suite, X-ray facilities, clinical laboratories, one recovery room (air-conditioned) and the surgical ward.

The surgical ward accommodates 42 surgical patients, but 21 beds are available for convalescent surgical patients in a quonset hut 100 yards from the main building. A few hospital beds are available in the surgical ward. The large majority of beds are padded iron cots, which patients prefer to beds with American mattresses. The surgical suite includes two well-planned operating rooms, air conditioned and equipped with necessary facilities for local or general anesthesia. Water is available for sterilizing instruments and surgical cleaning of wounds.

One new wing has been constructed as a surgical ward but has not yet been utilized. Another new wing now in use has 34 beds and is utilized as an obstetrical ward. This includes delivery and operative sections. A new building, expected to be completed shortly, will accommodate 70 obstetrical patients.

The medical department is housed in two buildings removed from the main building approximately 100 yards. This unit has 61 patient beds (cots) in use, but will also have a new building with 70 additional beds when the construction is completed. The pediatrics ward is a new two-story building about the same distance from the main building as the medical ward and surgical convalescent hut. Only the lower floor, with a capacity of 49 beds, is being utilized at present. Several of these are restricted to isolation cases which necessitates some of the rooms caring for six to eight patients. Modern bath rooms have been built in each end of the ward, but lack of water prevents their use.

There are a number of other buildings found on the hospital grounds. The administrative building includes the offices of the province Medical Chief and his administrative assistants. The dental office and the hospital pharmacy are housed in another building. On one corner of the grounds an older building is used daily for outpatient medical and pediatric clinics. The morgue is a small building between the outpatient clinic and the pediatric ward. The kitchen is a small, poorly covered area near the surgical hut. The laundry consists of one area, without roof, near an open well adjacent to the kitchen. At times the laundry is enlarged to include clothes lines stretched across the front porch of the hospital proper or hung on any fence within the hospital area. Open wells are the only available water supply for the hospital. However, facilities to furnish water to the hospital wards are included in the new construction.

At the age of 72 years, most men are content to relax and enjoy the comforts which they have earned through their working lifetime. Not so with Dr. William J. Shaw, Sr. In March of 1965 he retired from the full-time practice of medicine, but by September he was on his way to Viet Nam in response to an urgent call for civilian physicians for that war-torn country. At the invitation of MISSOURI MEDICINE, Doctor Shaw has prepared the accompanying article based on his experiences in the world's current "hot spot." The author does not profess to be a 60-day expert on foreign affairs, but restricts his comments to those areas where medical expertise makes his observations pertinent and his conclusions valid.

On the fourth day after his arrival at Nha Trang, the G.P. received a new assignment at the hospital. He was relieved from duties on the surgical team and assigned to the pediatric department to supplant the Viet Nam pediatrician who was transferred to Saigon for two months. With the consent and cooperation of the Province Medical Chief and the leader of the surgical team, the dubious G.P. was placed in charge of the pediatric ward with 49 beds and 56 patients and a clinic which treated some 30 patients each day. Night calls included alternating with the doctor on medicine. The pediatric department consisted of: six regular nurses (none of whom spoke English); the new American "pediatrician" (who did not speak the Vietnamese language); a number of nursing students and civilian maids (who were similarly non-bilingual); and an interpreter who was attached to the department temporarily to relieve the apprehension of the newly assigned G.P.-turned-pediatrician. Life may begin for some at 40, but for this G.P. it began in Nha Trang with his sudden acquisition of a large and growing pediatric practice!

The group of general practitioners had often *en route* debated about the type of patients who would be seen in the province hospitals. Before leaving the states all had received a list of the ten leading causes of death and illness in Viet Nam.

ILLNESS CHART

Leading Illnesses:	**Leading Causes of Death:**
Malaria	Tuberculosis
Beri-beri	Pneumonia
Dysentery	Malaria
Influenza	Diphtheria
Trachoma	Typhoid Fever
Tuberculosis	Meningitis
Whooping Cough	Measles
Amebiosis	Beri-beri
Pneumonia	Diseases of Early Infancy
Measles	

A common denominator of most developing countries in the world is the "cause" of health problems. Poor sanitation, inadequate nutrition and lack of knowledge by basic personnel of community health problems head the list of "causes" which permit diseases to flourish. Preventive measures, particularly in the remote rural areas, are inadequate to the scope of the problem. There simply is not enough personnel to do the job that must be done. *Viet Nam has one physician per 25,000 persons, mainly concentrated in cities and in the military, compared to the United States ratio of 1:700 or the Japanese ratio of 1:920. The hospital bed ratio in Viet Nam is 1½ per 1,000 persons. The United States has 1:9 and Japan, 1:5. Exotic diseases, seldom seen in North America, are serious problems in Viet Nam.*

Leading illnesses and causes of death, as reported above, are mainly diseases of early infancy. Since few babies are delivered in hospitals, health authorities believe causes of infant deaths are largely unreported. From the records kept by the "new pediatrician" at the Nha Trang province hospital for the month of October every leading illness in the chart above was seen, with the following diseases added: hepatitis, cervical adenitis, tonsillitis, diphtheria, ascariasis, leprosy, encephalitis, bubonic plague and myopathy. During that month 45 cases of bronchitis were admitted under the general heading of diarrhea; 55 cases were admitted which were later changed to diarrhea, dysentery and enteritis. It would only be fair to report that 278 patients were admitted during the period surveyed and 19 deaths occurred. Delayed admission to the hospital must be held responsible for some of the deaths. In many instances of injury or severe illness, the people must travel so far that it is a week or ten days before the patient is seen by a physician. Many of the admitting diagnosed cases were complicated by convulsions. Malnutrition should be placed high on the list, but might be questioned as a diagnosis.

For uses of comparison the following diseases were charted for one ward walk (before the specialization in pediatrics was assumed by the general practitioner). Numbers were not included.

MEDICINE

Gallbladder Disease
Arthritis
Icterus
Pulmonary T.B.
Diarrhea
Cholera
Bubonic Plague
Severe Anemia

Cardiac Disease
Hemiplegia
Gastric Ulcer
Asthma
Mental Disease
Malaria
Syphilis
Assorted Worms

A one-day survey of patients on the surgical ward indicates the variety of problems seen in that section:

SURGERY

Splenectomy
Head injury
Abdominal pain
Shrapnel in hand
Infected foot
Fractured hip
Air crash injury
Acute urinary retention
Imperforate anus
Renal calculus
Severe burns
Fracture of femur
Car accident-multiple injuries
Hernia
Peptic ulcer
Cystostomy
Head and jaw—multiple injuries
Fractured ribs
Grenade explosion
Fractured arm
Sarcoma of leg
Skin graft
Abdominal cyst
Leg amputation
Shrapnel in knee

Thirteen of this group were listed as battle casualties. Due to duplication in some of these patients, the 50% figure for battle casualties would be in error. This would be misleading in attempting to estimate the percentage of casualties among civilians needing medical care in Viet Nam. Many times the casualties died before being admitted to the hospital. In one instance, four out of six injured civilians died before surgery could be done.

There has been some confusion concerning the relationship of *Project Viet Nam* to the many organizations contacted before and during the overseas tour and the overlapping activities of some of these groups. The *Project* is simply a cooperative medical effort of America's Inter-Voluntary Agencies for the people of South Viet Nam, with the assistance of the American Medical Association and the Agency for International Development (AID). The parent organization of *Project Viet Nam* is the People-to-People Health Foundation, Inc. The President of that organization, William B. Walsh, M.D., is also the President of Project Hope and *Project Viet Nam.*

A certain confusion experienced by some of the participants in *Project Viet Nam* and the other programs for American volunteers would seem to be a natural outcome of a program which is rather loosely organized at this stage. Control of *Project Viet Nam* overseas has been shifted to USOM. In foreign countries that organization is responsible for all moves made by the many American teams utilized in the area. USOM regional offices are found in all the larger cities in Viet Nam.

One other step is of possible interest. In July, 1965 the Vietnamese Minister of Health and representatives of the U. S. Public Health Service met to plan a cooperative program for long-range improvement of health care in Viet Nam. This cooperative effort includes upgrading of training and health education services and activities, development of provincial hospitals, assignment of responsibilities for rural health, establishment of evacuation services from villages and district health units to provincial and regional hospitals, and extension of activities related to malaria control and eradication. The scope of the program and the size of the challenge it faces can be recognized perhaps if one understands that it involves long-standing health problems in the villages and among the vast rural population (including the Montagnard hill dwellers who speak another language), the 800,000 refugees from North Viet Nam and the ever present guerillas.

KHU
NHI DÔNG

Doctor Shaw discusses one of his patients with the local priest who will pass the information on to the patient's family. The language barrier poses a real problem for American physicians in their dealings with patients and para-medical personnel.

The primary objective of *Project Viet Nam* —to assist in the care of sick civilians—probably could not be better achieved in a country that needs doctors, needs food and needs medicine, and where even simple routine immunization has been largely neglected because of more pressing needs. The opportunity to meet the Vietnamese people and to understand them is unexcelled; and the reaction of the patients and their families and friends to American assistance is extremely gratifying. At the end of the 60-day tour, the first members of *Project Viet Nam* had a healthy regard for the citizens of that country and a real sympathy for the magnitude of their health problems.

The plan is to send five or more general practitioners, as well as surgical teams, to Viet Nam every month with each group rotating home after serving a two-month period. It is hoped that a number of retired physicians may want to participate in this program.

To be quite personal, it was the greatest vacation I've ever had and an opportunity I felt I could not miss. Now that I am back in the States, I realize more than ever how lacking the people of Viet Nam are for the skills of physicians. The need unquestionably is great.

Acknowledgment: The Editors wish to thank Miss Joye Patterson, Publications Director for the University of Missouri Medical Center, for her assistance in arranging and editing this article.

Edwin W. Brown, Jr., M.D., program director of Project Viet Nam, reports that the volunteer physicians now in Viet Nam "are doing an outstanding job and have expressed enthusiasm for their assignments." The program may be expanded if adequate facilities for the volunteers can be found. Physicians interested in additional information on the Project can obtain it by writing:

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Preliminary Program

108th Annual Session

MISSOURI STATE MEDICAL ASSOCIATION

Muehlebach Hotel, Kansas City **March 27-30, 1966**

Sunday, March 27

12:00 NOON Registration of Delegates.
1:30 PM House of Delegates Meeting, opening session.
3:00 PM Reference Committee meetings.
7:00 PM Reception, Dinner and Entertainment (Sponsored by the Jackson County Medical Society Woman's Auxiliary.)

Monday, March 28

8:30 AM Welcome—Paul R. Whitener, M.D., President Missouri State Medical Association.
8:35 AM *What's New . . .*
Moderator: Philip Byers, M.D., Kansas City.
1. . . . *in Kidney Disease?*, John Arnold, M.D., Kansas City.
2. . . . *in Ob-Gyn?*, Brooks Ranney, M.D., Yankton, S.D. (Sponsored by MSMA Committee on Maternal Welfare.)
3. . . . *in Radiology?*, William E. Powers, M.D., St. Louis. (Sponsored by Missouri Radiological Society.)
4. . . . *in Anesthesia?*, Kenneth K. Keown, M.D., Columbia. (Sponsored by MSMA Committee on Anesthesiology.)

10:00 AM Intermission to view exhibits.
10:30 AM *Convulsive Disorders in Childhood.*
Moderator: Peter G. Danis, M.D., St. Louis.
1. *The EEG as a Diagnostic Tool in the Infant and Child,* J. L. O'Leary, M.D., St. Louis.
2. *Convulsions in the Infant and Child—Chemotherapeutic Control,* Joyce E. Devine, M.D., St. Louis.
3. *Organic Retardation, Behavior and Learning Problems of the Child—Differential Diagnosis, Prognosis and Avenues of Treatment,* Clement E. Brooke, M.D., Columbia.

10:30 AM *Management of Pain.*
Moderator: Robert Felix, M.D., St. Louis.
1. *Pharmacological Agents for Pain,* Hugh S. Mathewson, M.D., Kansas City.
2. *Migraine and Other Vascular Headaches,* Stewart Wolf, M.D., Oklahoma City, Okla.
3. *Neurosurgeon Looks at Pain,* Leonard T. Furlow, M.D., St. Louis.

12:00 NOON Committee on Maternal Welfare Luncheon.
Fifty-Year Club Luncheon.
General Luncheon: *The Whole Man,* Rev. Dr. Paul B. McCleave, AMA Department of Medicine and Religion, Chicago, Ill.
2:00 PM *Management of Arthritis.*
Moderator: Ralph A. Kinsella, M.D., St. Louis.
1. *Treatment of Rheumatoid Arthritis,* Howard F. Polley, M.D., Rochester, Minn.
2. *Newer Concepts of the Pathogenesis of Acute Gouty Arthritis,* J. E. Seegmiller, M.D., Bethesda, Md.
3. *New Findings on the Pathogenesis of Rheumatoid Arthritis,* Joseph L. Hollander, M.D., Philadelphia, Pa.

2:00 PM *Surgical Session.*
Moderator: Wilbur P. McDonald, M.D., St. Joseph.
1. *Endocrine Prophylaxis and Early Diagnosis of Breast Cancer,* Henry P. Leis, Jr., M.D., New York, N. Y. (Sponsored by Missouri Surgical Society.)
2. *Treatment of Large Thermo Burns,* William F. Monafo, M.D., St. Louis.
3. *Pre and Post Operative Prophylactic Antibiotics,* William Cole, M.D., St. Louis.

3:30 PM Intermission to view exhibits.
4:00 PM House of Delegates meeting, second session.
5:30 PM Reference Committee Meetings.

Tuesday, March 29

8:00 AM Registration.
8:30 AM *The Management of Common Eye Disorders.* (Sponsored by the Missouri Ophthalmological Society.)
Moderator: Truman B. Schertz, M.D., North Kansas City.
1. *Management of Eye Injuries,* W. Howard Lewin, M.D., St. Louis.
2. *Eye Manifestations of Systemic Disorders,* Felix N. Sabates, M.D., Columbia.

3. *Differential Diagnosis of the Red Eye,* Theodore E. Sanders, M.D., St. Louis.

8:30 AM *Current Concepts in Thyroid Disease.*
Moderator: Thomas F. Frawley, M.D., St. Louis.
1. *Thyroid Physiology and the Development of Thyroid Disease,* William W. Engstrom, M.D., Milwaukee, Wis.
2. *Subacute and Chronic Thyroiditis,* J. Earle White, M.D., Columbia.
3. *Hyperthyroidism and Exophthalmos,* Thomas F. Frawley, M.D., St. Louis.

8:30 AM *What's New in Reducing Neo-Natal Mortality?*
Moderator: Ned W. Smull, M.D., Kansas City.
1. *Bleeding Problems of the New-Born Infant and Prevention of Hemolytic Diseases in Utero,* Arthur E. McElfresh, M.D., St. Louis.
2. *Hypoglycemia and Acid Base Upset,* Robert Jackson, M.D., Columbia.
3. *Respiratory Distress as a Cause of Neo-Natal Mortality,* Herbert C. Miller, M.D., Kansas City, Kan.

10:00 AM Intermission to view exhibits.

10:30 AM *Scientific Symposium.* (Sponsored by the Missouri University Medical Alumni.)
The Neglected Venous System, Oscar V. Batson, M.D., Philadelphia, Penn., Recipient of the 1966 M.U. Medical School Alumni Award.
Discussion and Question-Answer Session:
Moderator: Doctor Batson
Panelists: Marion S. DeWeese, M.D., Columbia
Lynn O. Litton, M.D., Columbia
C. Thorpe Ray, M.D., Columbia
John S. Spratt, Jr., M.D., Columbia
Arch W. Templeton, M.D., Columbia

12:00 NOON Missouri University Alumni Luncheon.

1:45 PM *Medicare.*
Moderator: Avery P. Rowlette, M.D., Moberly.
1. *Plan of Operation* (Representative from Department of Health, Education and Welfare, Washington, D. C.—to be announced).
2. *How It Affects Missouri Welfare Program,* Proctor N. Carter, Director, Division of Welfare, Jefferson City.
3. *Problems and Potentials of Medicare,* Ernest B. Howard, M.D., Chicago.

1:45 PM *Care of the Traumatized Patient.* (Sponsored by MSMA Committee on Trauma.)
Moderator: Richard E. Lord, M.D., St. Louis.
1. *Treatment of Shock in the Severely Injured Patient—Old and New Concepts,* J. William Hillman, M.D., Nashville, Tenn.
2. *Non-Penetrating Injuries to the Abdomen,* C. Alan McAfee, M.D., St. Louis.
3. *Management of the Crushed Chest,* John H. Mayer, Jr., M.D., Kansas City.

3:00 PM Intermission to view exhibits.

3:30 PM *The Management of Cervical Carcinoma In Situ—The Follow-Up of a Positive Pap Smear.* (Sponsored by the Missouri Division, American Cancer Society.)
Moderator: Felix Rutledge, M.D., Houston, Texas.
Participants: B. J. Masterson, M.D., Kansas City.
Alfred I. Sherman, M.D., St. Louis.
Axel N. Arneson, M.D., St. Louis.

3:30 PM *Use and Abuse of Transfusions, Antibiotics and Steroids.*
Moderator: Harold Lurie, M.D., Springfield.
1. *Use and Abuse of Transfusions,* Virgil Loeb, M.D., St. Louis.
2. *Choice and Dose of Antibiotics,* R. William Burmeister, M.D., St. Louis.
3. *Use and Abuse of Steroids,* Michael M. Karl, M.D., St. Louis.

5:00 PM Intermission to view exhibits.

7:30 PM Banquet honoring Past Presidents of MSMA.
Speaker: The Honorable Warren E. Hearnes, Governor of the State of Missouri.

Wednesday, March 30

7:30 AM House of Delegates meeting, breakfast and final session.

THE MISSOURI SOCIETY OF MEDICAL TECHNOLOGISTS

1966 Annual Meeting

Muehlebach Hotel, Kansas City **March 27-30**

Sunday, March 27

Research Hospital
Morning—Business meeting, MSMT
Afternoon—Business meeting, MSMT
Evening—Business Meeting, MABB

Monday, March 28

Muehlebach Hotel
  Morning—Program of the Missouri Association of Blood Banks
  Afternoon—LDH and Isoenzymes
    Panel—Automation and the Schools of Med. Tech.
    Serology Workshop

Tuesday, March 29

Morning—Red Cell Enzyme Deficiencies
  Partial Thromboplastin and Lee and White Clotting Time
  Fungus
  Workshop—Standardization of Spectrophotometers

Afternoon
  Histochemistry
  Anaerobic Bacteriology
  Medicare and the Laboratory

Wednesday, March 30

Morning—Panel—Phenylketonuria, the disease, methods of determination and the Missouri Law.

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Volume 63, Number 2—February, 1966

Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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VICTOR C. SCHELL, M.D. *and*
LESTER E. WOLCOTT, M.D., *Columbia*

The Etiology, Prevention and Management Of Decubitus Ulcers

The increase in morbidity of the chronically ill and disabled as a result of decubitus ulcers has persisted since the beginning of man and, even in this era of modern medicine, continues to be a frequent and serious complication, seemingly accentuated by increasing life expectancy with the inevitable increase in chronic illness as well as the increase in numbers of traumatic brain and spinal cord injuries. One of the major obstacles to a successful rehabilitation program continues to be the decubitus ulcer or ulcers which occur with distressing frequency in patients with brain injuries, spinal cord injuries and other conditions affecting mobility and sensation. Restorative treatment often comes to a standstill as this complication occurs and as the cost of prolonged hospitalization and time lost from work add to the concern, discomfort and distress of the patient. It has been estimated that each decubitus increases the cost of the medical care program by $5,000.

The term "decubitus ulcer" (Latin: lying down) does not correctly describe the clinical entity since many of these ulcers develop in other positions. "Pressure sore" or "trophic ulcer" are more appropriate terms but "decubitus ulcer" and "bed sore" continue to be more commonly used, and, consequently, the term "decubitus ulcer" will be used to denote any ulceration of the skin as a result of pressure. As a localized area of tissue necrosis occurs between an underlying bony prominence and the bed or chair upon which the patient is resting, it can then be properly termed a "decubitus ulcer."

Three stages of development are recognized: (1) Threatened decubitus is indicated by redness of the skin which disappears on pressure. At this stage skin and subcutaneous tissues remain soft. (2) Inevitable decubitus is characterized by the presence of duskiness or local cyanosis, unaffected by digital pressure. At this stage the skin and underlying structures are indurated and occasionally a vesicle may be evident. (3) Obvious decubitus ulceration is characterized by tissue necrosis which may involve not only the skin and subcutaneous tissues but fascia, muscle and bone as well. The areas most frequently involved and of most concern in the aspect of prevention are the sacral (from the supine position), ischial (sitting) and trochanteric (lying on the side). Other areas less frequently encountered are the knees, malleoli, elbows, scapulae and occiput.

Normal cell metabolism is dependent upon the receipt of nutrients and the elimination of metabolites. The circulating peripheral blood fulfills these metabolic needs. When a disturbance in circulation occurs, in this instance as a result of pressure, edema, cellular infiltration

The authors review the symptoms, causes, measures of prevention and methods of treatment for decubitus ulcer, an ancient ailment which continues to complicate the treatment of patients who are immobilized by illness or injury. All persons involved in patient care, *including the patient*, should be educated for prevention and trained for management of decubitus ulcer. Doctor Wolcott is Chief of the Section of Physical Medicine and Rehabilitation and Doctor Schell is a Resident Physician in the Section, University of Missouri School of Medicine.

and hyperemia result with subsequent skin necrosis and ulceration. Only by the determination of the factors contributing to the interference with cell metabolism in a localized area can we hope to develop techniques for the prevention and treatment of this harassing problem.

ETIOLOGY

Considerable disagreement exists concerning the etiology of decubitus ulcers; however, a number of factors are generally recognized:

1. **Physical factors**
   Pressure ✓
   Heat
   Moisture
   Friction
   Shearing Force ✓
   Hygiene
2. **Nutrition**
   General Undernutrition
   Specific Nutritional Deficiencies (e.g. protein, ascorbic acid)
3. **Anemia**
4. **Infection**

Landis,[1] using a micro-injection method for determining blood pressures in single capillaries, found the average pressure in the arteriolar limb to be 32 mm. of Hg, in the mid-capillary area 20 mm. of Hg, and in the venous limb 12 mm. of Hg. Kosiak and associates[2] determined pressures on ischial tuberosities and adjacent tissue in normal subjects while sitting on various surfaces. The mean pressure on a hard flat surface over the ischial tuberosities was greater than 300 mm. of Hg and on a hard contoured surface it reached as high as 700 mm. of Hg. It was also found that with the addition of a two inch foam rubber cushion the ischial pressure dropped to 160 mm. of Hg, still far above the capillary blood pressure. The results of this study emphasize the extreme pressure sustained by the ischial tuberosity and adjacent tissues in the sitting position.

Heat contributes to the cellular metabolic deficiency by increasing the metabolic rate, thus increasing the demand for oxygen which supply may already be compromised.

An increase in moisture, as a result of perspiration and incontinence of urine or feces, reduces the resistance of the skin to other physical factors contributing greatly to the risk of development of necrosis and ulceration.

Friction injury with resultant loss of epidermal protection predisposes to infection, edema and increased moisture. By itself, this factor will not destroy the dermis or deeper structures.

The shearing force that occurs when the head of the bed is raised 30 degrees or more or if the patient is sitting at a reclining angle, as in a reclining wheelchair, results in an angular force and compression between the supporting surface and the skin over the sacrum. As the torso slides toward the foot of the bed or chair, a force is transmitted to the sacrum and its firmly attached fascia which is pierced by the posterior branches of the lateral sacral and gluteal arteries. This shearing force angulates and stretches these vessels with resulting thrombosis and subsequent ischemic necrosis.

Hygiene is important in decreasing the bacterial population of the skin, since inevitable decubitus follows a threatened decubitus rapidly if infection occurs.

Poor general nutrition is, of course, frequently associated with chronic illness. The marked loss of weight which so often occurs, in addition to the muscle atrophy often present, results in a substantial reduction in the subcutaneous fat and muscle bulk which reduces the mechanical padding between the skin and underlying bone. The more specific nutritional deficiencies, hypoproteinemia and avitaminoses, especially ascorbic acid, interfere with the maintenance of normal tissue integrity. A negative nitrogen balance commonly follows, predisposing to edema of dependent parts, decreasing the elasticity, resiliency and vitality of the skin and making it more susceptible to easy injury. The development of edema also promotes the presence of other physical factors, namely, heat and moisture. Healing, of course, will not occur when the patient is in negative nitrogen balance. Since the rate of diffusion of oxygen and metabolites from the capillaries to the cell decreases in proportion to the distance from the capillary to the cell, it is clear that edema will have a profound effect on cellular survival or proliferation.

Anemia or anoxemia, with resulting reduction in delivery of oxygen to the cell, will further embarrass cellular metabolism and tissue necrosis will become more imminent.

An added factor, anesthesia, is present in patients with sensory loss in the more vulnerable areas. The paraplegic, for instance, has lost the "warning pain" of discomfort from prolonged pressure. In addition motor stimuli to muscle is lost with the inability to change body position. With this loss of muscle contraction disuse atrophy occurs and venous blood flow is slowed with resultant thrombosis and a decreased oxygen level. In the patient with spasticity threatened decubiti as a result of friction injury are common.

PREVENTION

The prevention of decubitus ulcer is the ultimate goal in all instances but is extremely difficult to achieve. Prevention as well as treatment requires the awareness and cooperation of all disciplines concerned with daily patient care. The major portion of the program is delegated to the nursing service. On the Rehabilitation Service at the University of Missouri Medical Center, the occurrence of new decubitus ulcers has been well controlled by the constant emphasis on prevention and adequate training of the members of the rehabilitation team. In the past 3,000 patient days not a single decubitus has developed. The task of prevention is great, but the reward is many times the effort and is a tribute to good nursing care.

Sheets must be clean, soft, dry and smooth. Any wrinkles or foreign material such as bread crumbs may lead to small areas of excessive pressure and skin maceration. The popular rubber rings and doughnuts are forbidden since they lead to edema and ischemia of the central area. The patients are turned frequently, preferably every two hours or less, with constant effort being made to distribute the body weight over as much area as possible in order to lessen the pressure on any one localized area. In some types of injuries the electrically driven circle bed or Stryker frame is necessary to provide for safety and ease of turning. The position in bed should be observed frequently and the head of the bed should not be elevated over 30 degrees for any significant period of time to obviate the danger of the shearing force factor. Alternating pressure mattresses are desirable in certain instances but often lead to false security and increased heat. The skin should be kept dry and clean, preferably by one of the hexachlorophene preparations, and should be air dried with frequent light application of an inert powder.

The skin is frequently inspected, and as soon as possible the patient is taught to check his own skin with a mirror for redness or other evidence of a threatened decubitus ulcer.

Urinary and fecal incontinence must be controlled because urea splitting organisms lead to rapid skin breakdown. In the early stages an indwelling Foley catheter may be employed. After bladder training is instituted great caution must be exercised to prevent prolonged exposure to the moisture which is often present. The bowels are controlled by the use of Bisacodyl, according to the program previously described by one of the authors.[3]

The importance of nutrition in prevention of decubitus ulcers cannot be over-emphasized. A high protein, high vitamin diet is necessary, and in some cases a protein and vitamin supplement must be added. It is important that the diet should be as appetizing in taste and appearance as possible since anorexia is frequently present. The importance of adequate nutrition must be explained to the patient and its necessity in the total treatment program must be emphasized. Often we find nearly untouched trays returned to the kitchen. In such instances it is necessary to offer snacks of the patient's choice in mid-morning, mid-afternoon and evening to maintain adequate dietary intake.

It is extremely important to mobilize the patient on the tilt table, wheelchair, crutches, braces or whatever, and to institute an early active physical program. This has a desirable effect on the appetite, venous stasis and morale. Recreational and occupational therapy programs are encouraged to improve exercise tolerance and to increase the general activity level of the patient. Those with major disabilities must be taught early in their illness to turn themselves in bed frequently and when they are in the wheelchair to do a "push-up" every ten to 15 minutes. The presence of other patients with similar disabilities on the ward will serve as a constant reminder.

Correct wheelchair prescription and utilization must not be overlooked, since the greater portion of the quadriplegic's or paraplegic's time will be spent in the wheelchair. Footrests must be adjusted to a height that distributes the weight over the posterior thighs as well as the ischial area. Footrests which are too high result in a greater portion of the weight being shifted posteriorly to the ischial tuberosity. Removable arm rests are necessary to minimize the trauma and decrease the effort required in transfer. A seat board should be provided with a cutout area posteriorly, about one-half inch wider than the distance between the ischial tuberosities. The board should then be covered with four inches of foam rubber.

The old adage, "attention to pertinent detail is mandatory," applies very well to the successful prevention of decubiti.

TREATMENT

In spite of a good prophylactic program and excellent nursing care, decubitus ulcers will occur and treatment will be required. Our treatment program is essentially the same as that in prevention, but necessarily more vigorous. Most patients with spinal cord injuries admitted to the Rehabilitation Service, especially those injured many months prior to their admission, present with ulcers in varying degrees of severity. The most common site is the ischial tuberosity. In addition, anemia and malnutrition are frequently present.

Pressure over the ulcerated area is eliminated completely, and the normal skin is treated as described above to prevent other areas from breaking down. The dead tissue is debrided manually, and the patient is given daily whirlpool baths followed by the application of a light coat of Streptokinase-Streptodornase. The area is dressed with a light sterile dressing. If the defect is large it is often necessary for it to be packed with furacin or normal saline dressings. Using this technique we have been able to keep the wound free of necrotic tissue and infection, and we are rewarded with the appearance of healthy granulation tissue in a relatively short time.

Nutrition again plays an important role. As much as 50 grams of protein is lost daily from a large open decubitus.[4] A positive nitrogen balance and a hemoglobin of at least 12 grams is essential for healing. We have demonstrated on many occasions the inability of an ulcer to heal with a hemoglobin of less than 12 grams, and with the replacement of this hemoglobin by transfusion we can demonstrate the immediate healing response in the ulcerated area. High protein foods with iron and vitamin supplements are indicated since whole blood administration is only of transient benefit if oral intake is not maintained at a satisfactory level.

Infection in other areas, especially the urinary tract, must be treated vigorously since they contribute so heavily to the chronicity of the decubitus and the associated increase in spasticity may multiply the decubitus problem. This increase in spasticity may often precede other clinical signs of a urinary tract inflammatory process.

Systemic antibiotics are widely used in the treatment of decubitus ulcers but their value remains questionable. Seventy per cent of open wounds harbor hemolytic staphylococcus aureus, as well as many other organisms of varying virulence and resistance. The dead tissue, serum, exposed tendons and fascia, and tissue fluid provide an excellent culture medium for such mixed infections. The effectiveness of an antibiotic *in vitro* against organisms cultured separately may be misleading when dealing with a wound infection of this mixed variety. Organisms not significantly virulent by themselves take on increased invasive or proteolytic properties in such mixtures. Combined reactions of different bacteria may be more dangerous than a simple addition of their individual properties would indicate. It must be noted, however, that surface bacterial contamination is not a problem; suppuration and invasive infection are.[5] Suppuration will occur in the presence of necrotic material and may then proceed to invasion.[6]

The only sure way to reduce the number of bacteria in a wound is by the removal of the devitalized tissue upon which they grow and by the mechanical cleansing of the wound with scrubbing and/or whirlpool bath. Many antibiotics cause local tissue sensitization and lose potency rapidly. The rapid replacement of vulnerable organisms by resistant organisms is common.

A myriad of topical preparations have been recommended at some time or another for the treatment of the decubitus ulcer. Among these are pyruvic acid, starch, salicylic acid, Dakin's solution, cod liver oil ointment, gentian violet, acetic acid, boric acid, vitamin C paste, granulated sugar and Gelfoam, to mention only a few. Our experience with any of these agents is limited, and no attempt will be made to discuss the merits of any particular topical agent. The number and variety of these preparations indicates that the specific preparation used is of little importance in comparison to carrying out the basic program outlined above.

(Continued on page 119)

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Mediastinal Abscess Due to Esophageal Perforation by a Foreign Body

Case Report

THE FOLLOWING is a case report of a mediastinal abscess as a result of a perforation of the esophagus by a foreign object. The noteworthy features in this particular case were: (1) It presented itself with symptoms and physical findings which led to an impression of acute cholecystitis and subsequent laparotomy, and (2) There was an absence of findings suggestive of pathology in the chest until after the patient had undergone surgery. The symptoms and findings then were those of a right lower lobar pneumonia and heart failure.

CASE REPORT

A 58-year-old housewife was first seen for her terminal illness on the evening of February 19, 1965, complaining of excruciating pain in the RUQ of the abdomen. She stated that the pain had been present since February 16, and that the onset of pain initially was not severe.

Examination revealed vital signs to be normal except that her blood pressure of 100/60 was considerably lower than previous blood pressure readings which averaged 140/90. ENT was not remarkable. Heart and lungs appeared to be normal on percussion and auscultation. Examination of the abdomen revealed marked guarding of the right upper quadrant and epigastrium. The remainder of the abdomen was not remarkable. An electrocardiogram was made at the office, as was a chest X-ray. Both appeared to be normal, except for elevation of the right diaphragm on X-ray. WBC and differential in our office was: white blood count—11,750; differential—76 segs, 9 lymphs, 5 monos, 10 stabs, 0 eos, 0 baso cells. The patient was given 50 mgs. of Demerol IM and immediately hospitalized.

Immediately following admission, scout films were made of the abdomen. No free air was noted to be present, and no obstructive pattern was seen. Serum amylase was normal. Differential diagnosis on admission was: (1) acute gallbladder disease, (2) ruptured peptic ulcer of a slow leaking type or (3) carcinoma of the liver, but this was thought to be remote. It was noted that her temperature initially was normal. However, the WBC on admission at 9 P.M. was 20,800 cells, with 80 segs, 8 stabs, 9 lymphs, 3 monos. A repeat white blood count at 8 A.M. the following morning was 14,000 cells with 34 bands, 34 segs, which was indicative of marked worsening of her condition and suggestive of an overwhelming infection with the possibility of septicemia. She was seen by the surgeon of our group, who also felt that she had an acute gallbladder, possibly a carcinoma of the liver, or possibly a ruptured abdominal viscus. He felt that surgery was necessary immediately, and she was operated that morning.

Laparotomy, which included a careful examination of all abdominal viscera, did not reveal any pathological lesion. Immediately following surgery, it was noted that her blood pressure was satisfactory but her pulse rate rose to 140 beats per minute.

An internist was called in and saw the patient immediately following surgery. For the first time her temperature was elevated, being 103.4 rectally. A portable chest film was made and was interpreted as showing a right lobar pneumonia with rather marked elevation of the right diaphragm and enlargement of the heart. An electrocardiogram made at that time was not remarkable. We felt that the patient had a right lower lobar pneumonia with cardiac decompensation. She was digitalized rapidly with Lanotocide-C. She went down hill rapidly, however, in spite of intravenous penicillin and chloromycetin and other supportive therapy, and expired at 4:20 A.M. on February 21. Her terminal temperature was 105.

At autopsy it was found that the esophagus had been perforated by the wishbone of a chicken. One side of the bone had been broken off and its sharp point had penetrated the esophagus anteriorly in the mediastinal area resulting in a purulent pericarditis characterized by a ½ cm. fibrinoid film overlying the heart. There was also fluid present in the pericardial sac. The pleural spaces contained 800 cc of purulent fluid. The surface of the lungs were covered by an inflammatory exudate. The liver

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The Wolff-Parkinson-White Syndrome Differential Diagnosis

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Many articles have been written on the clinical significance of the Wolff-Parkinson-White syndrome (WPW), since its original description in 1930.[1] An analysis shows that this syndrome occurs more often in healthy persons from early childhood to old age, is more frequent in males, is frequently associated with intermittent episodes of supraventricular tachycardia and that its presence on an electrocardiogram neither rules in nor rules out underlying heart disease.[1-7]

The following three cases are reported to demonstrate the difficulties encountered with interpreting the significance of the WPW syndrome. In one patient the diagnosis of myocardial infarction was made when there was none; in another patient no importance was given to the WPW syndrome which was present in association with mild chest discomfort, but one day later the postmortem examination revealed an acute myocardial infarction; and in the third patient a diagnosis of left ventricular hypertrophy in a young healthy individual was entertained until the vectorcardiogram revealed the existence of the WPW syndrome.

Case Reports

Case # 1: A 37-year-old female entered the St. Louis University Hospital with the chief complaint of shortness of breath, palpitations and anterior chest discomfort of three days duration. She had a three year history of intermittent palpitations of short duration which subsided spontaneously.

Physical examination revealed a well developed female in mild respiratory distress with a blood pressure of 110/75, an apical rate of 220 with no pulse deficit and 28 respirations per minute. Examination of the eyes, ears, nose and throat was negative. There were minimal rales in both lung bases with increased dullness to percussion of the lower left lung. The point of maximum cardiac impulse was at the 5th intercostal space 8 cm. to the left of the left sternal border. The heart sounds were normal and no murmurs were heard even after the heart rate had slowed appreciably. Examination of the abdomen revealed a three-finger-breadth hepatomegaly. Examination of the extremities was negative. There was no evidence of venous distention. The complete blood count, urinalysis and liver function tests were normal. On the day of admission, the serum glutamic oxalacetic transaminase was 14 U. (normal 40 U.). It rose to 56 U. the next day and then returned to 42 U. and 16 U. respectively the next two days. The serum glutamic pyruvic transaminase and the serum lactic dehydrogenase remained within normal limits. The serum cholesterol was 184 mg. % and the total serum lipids 542 mg. %. The roentgenogram of the chest showed a normal cardiac silhouette, congestive changes in the lungs and a dilated aorta (Fig. 1). The admission electrocardiogram showed a supraventricular tachycardia with a rate of 214 (Fig. 2). On the following day, a typical WPW syndrome, type A was observed (Fig. 3). The vectorcardiogram showed the pattern typical of this syndrome and revealed some irregularity of the efferent limb in the frontal and right sagittal QRSs$\bar{E}$ loops (Fig. 4). The patient was treated with anticoagulants, digitalis and diuretics since a myocardial infarction could not be ruled out. The initial slight serum glutamic oxalacetic transaminase elevation may have been secondary to hepatocellular damage. During the ensuing three weeks the hospital course was uneventful and satisfactory. Because of the initial atypical symptoms, she was given atropine intravenously (2 mg.) in an attempt to abolish the abnormal conduction but without success. Following this, a total of 1.6 grams of quinidine was given in three hourly doses, and the electrocardiogram showed the disappearance of

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Presentation of three cases which demonstrate the difficulties in interpreting the significance of the WPW syndrome. The presence of the syndrome on an electrocardiogram neither eliminates nor confirms the possibility of underlying heart disease. The author emphasizes the advisability of attempting to obtain a normally conducted ECG in an effort to assess this possibility.

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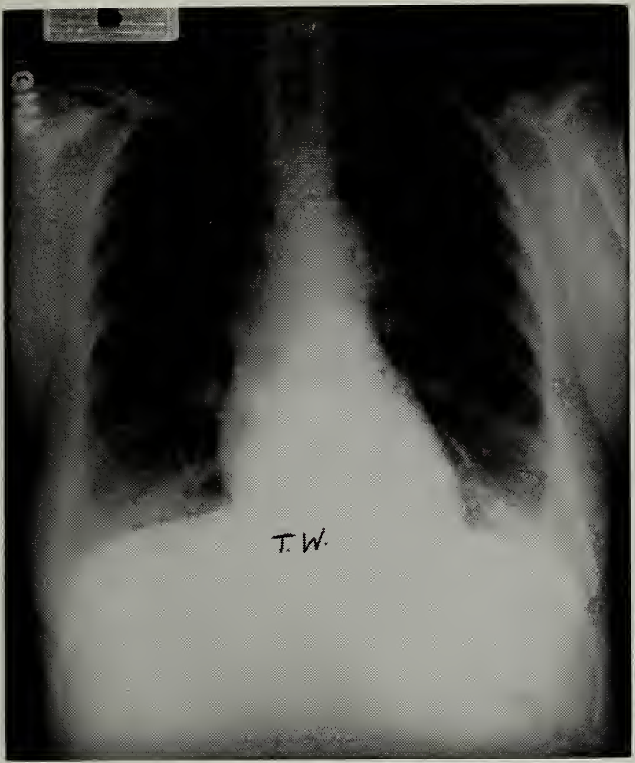


Fig. 1 Chest X-ray in Case # 1 shows evidence of pulmonary congestion.

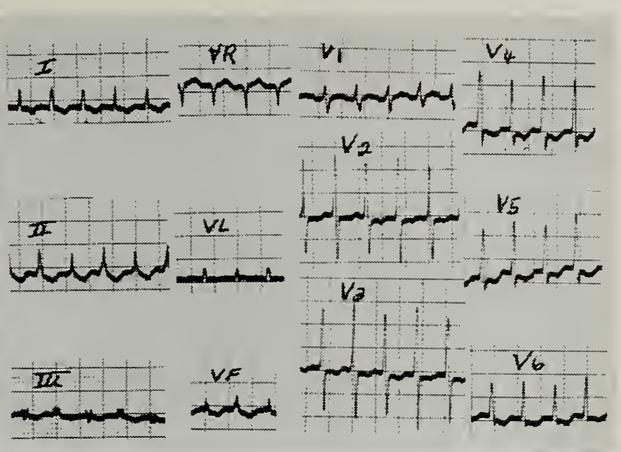

I
VR
V1
V4
V2
II
VL
V5
V3
III
VF
V6

Fig. 2 Electrocardiogram from Case # 1 shows supraventricular tachycardia.

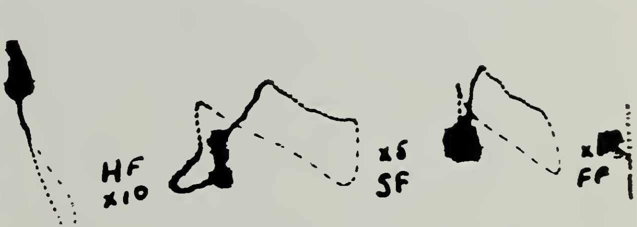

HF
x10
x6
SF
FF

Fig. 4 Vectorcardiogram from Case # 1 shows WPW syndrome, type A.

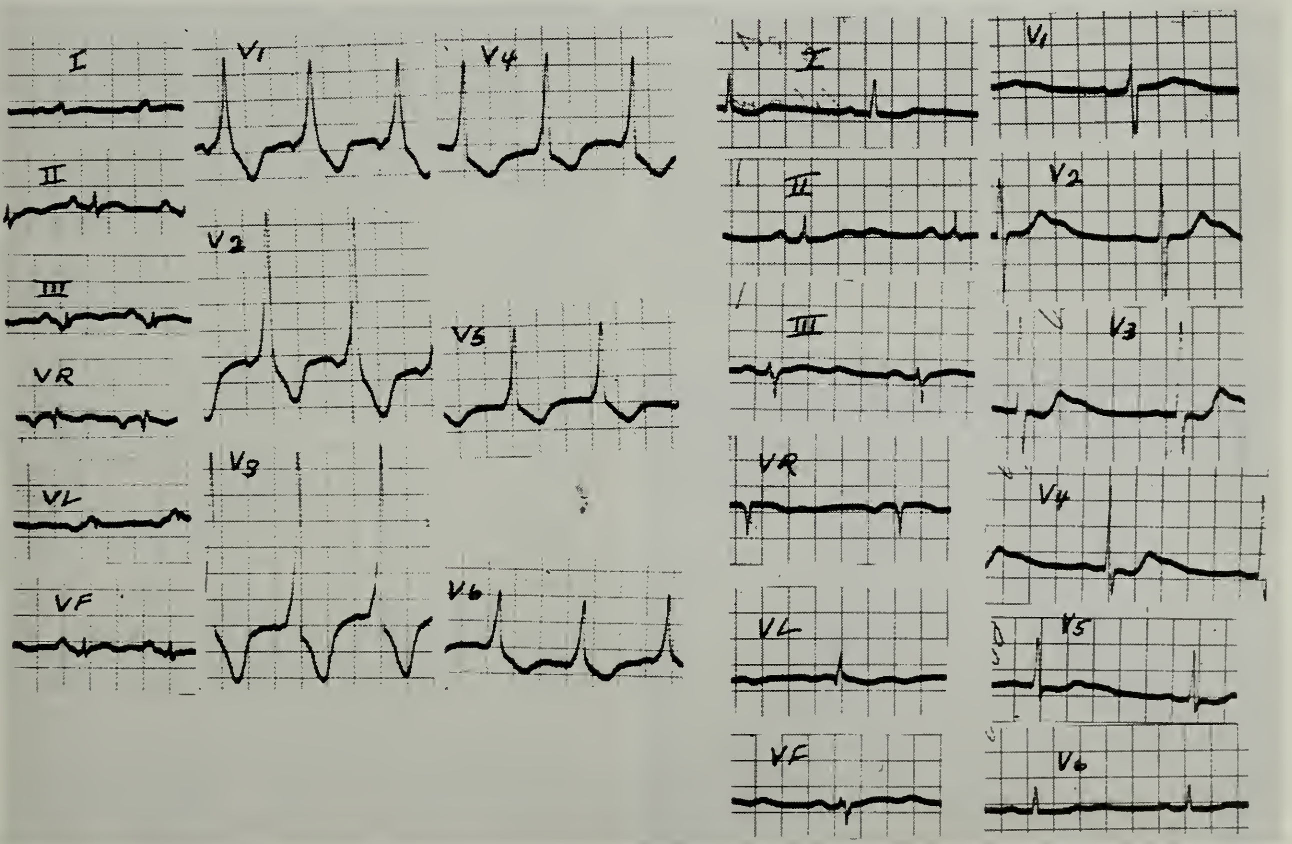

I
V1
V4
II
V2
III
V5
VR
VL
V3
VF
V6
I
V1
II
V2
III
V3
VR
V4
VL
V5
VF
V6

Fig. 3 Electrocardiogram (Case # 1) shows WPW syndrome, type A; and normal AV conduction after Quinidine.

the WPW syndrome (Fig. 3). There was evidence of quinidine effect but no evidence of myocardial infarction. Since the conduction was via the atrioventricular node for a very short time, the vectorcardiogram was not repeated.

Comment: This case points to the fact that in the presence of a WPW syndrome the electrocardiogram will not be useful in making a diagnosis of myocardial infarction and attempts should be made to convert the accelerated conduction to an AV nodal conduction even if only for a short time (two hours in this case). The congestive failure was most likely due to the rapid rate.

Case # 2: A 24-year-old man was admitted to the St. Louis University Hospital with the chief complaint of palpitations and left precordial chest pain associated with dyspnea, paresthesias of the hands and one episode of dizziness. The pain lasted 30 minutes and disappeared. There was no history of angina pectoris, dyspnea on exertion or orthopnea. There was a seven year history of periodic palpitations which began and ended abruptly and were unrelated to physical exertion. The family history was non-contributory.

Physical examination revealed a patient in no acute distress with a blood pressure of 120/80, pulse of 65 and a respiratory rate of 24 per minute. Examination of the eyes, ears, nose, throat, neck and chest was negative. The point of maximum cardiac impulse was at the 5th intercostal space 9 cm. to the left of the sternal border. The 1st and 2nd heart sounds were normal, the 1st being slightly louder than usual. There was a grade I medium-pitched mid-systolic murmur at the point of maximum cardiac impulse radiating to the left sternal border which disappeared in the sitting position. Examination of the abdomen and extremities was negative. A complete blood count and urinalysis were normal. A roentgenogram of the chest showed slight cardiomegaly (Fig. 5). An electrocardiogram showed a WPW syndrome type B (Fig. 6). The patient was sedated with 50 mgm. of meperidine, and because his physician felt that no further work-up was indicated he was sent home. He was brought back, dead-on-arrival, 12 hours later. The postmortem examination revealed an acute anterior myocardial infarction.

Comment: This case again indicates that the WPW pattern on the electrocardiogram interferes with the ability to make or rule out the diagnosis of a myocardial infarction. Therefore, in all cases in which there is such a suspicion attempts should be made to temporarily abolish the accelerated conduction so as to be able to make a more precise diagnosis.

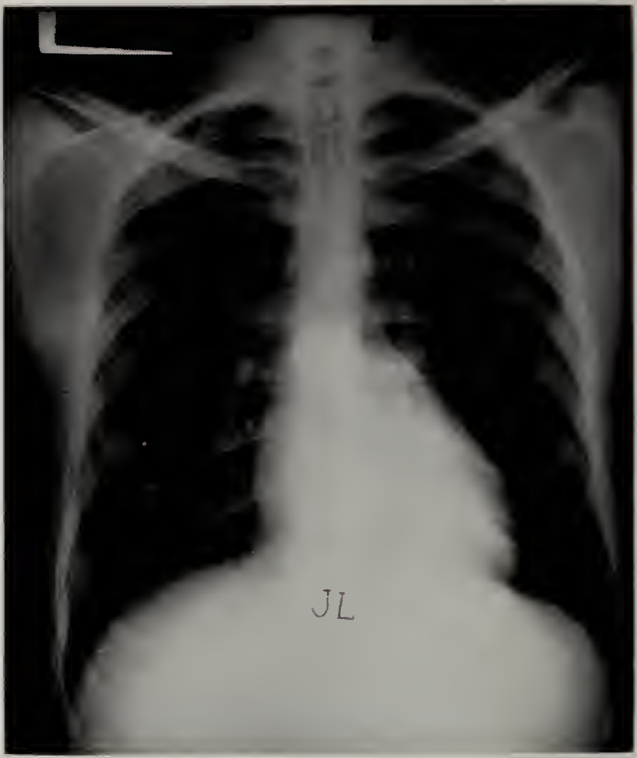


Fig. 5 Chest X-ray in Case # 2 shows slight cardiomegaly.

Case # 3: A 21-year-old man was first seen at the St. Louis University Hospital at 15 years of age with the chief complaint of easy fatigability. He had been placed on restricted physical activity because of a heart murmur. At that time an electrocardiogram was read as left ventricular hypertrophy. The roentgenogram of the chest showed a slightly enlarged heart, and right heart catheterization failed to disclose any abnormality.

During the six years prior to his second hospital admission, the patient gave a history of atypical chest discomfort and occasional palpitation associated with anxiety. He was able to play football and go through the basic Army training, but was given a medical discharge because of recurrence of these symptoms, i.e., the presence of a heart murmur and the abnormal electrocardiogram.

Physical examination revealed a large man, 6 feet 4 inches tall, weighing 270 pounds. He was very anxious but comfortable, with a blood pressure 130/80, a pulse of 80 and 20 respirations per minutes. Examination of the eyes, ears, nose and throat was negative. The carotid arteries had normal pulsations. The point of maximum cardiac impulse was at the 5th intercostal space 10 cm. to the left of the left sternal border. No thrills or thrusts were palpable. The 1st and 2nd heart sounds were normal. There was a grade II medium pitched mid-systolic murmur heard from the point of maximum impulse to the left sternal border, and the murmur varied with changes in position. Examination of the lungs and abdomen was normal. Examination of the periph-

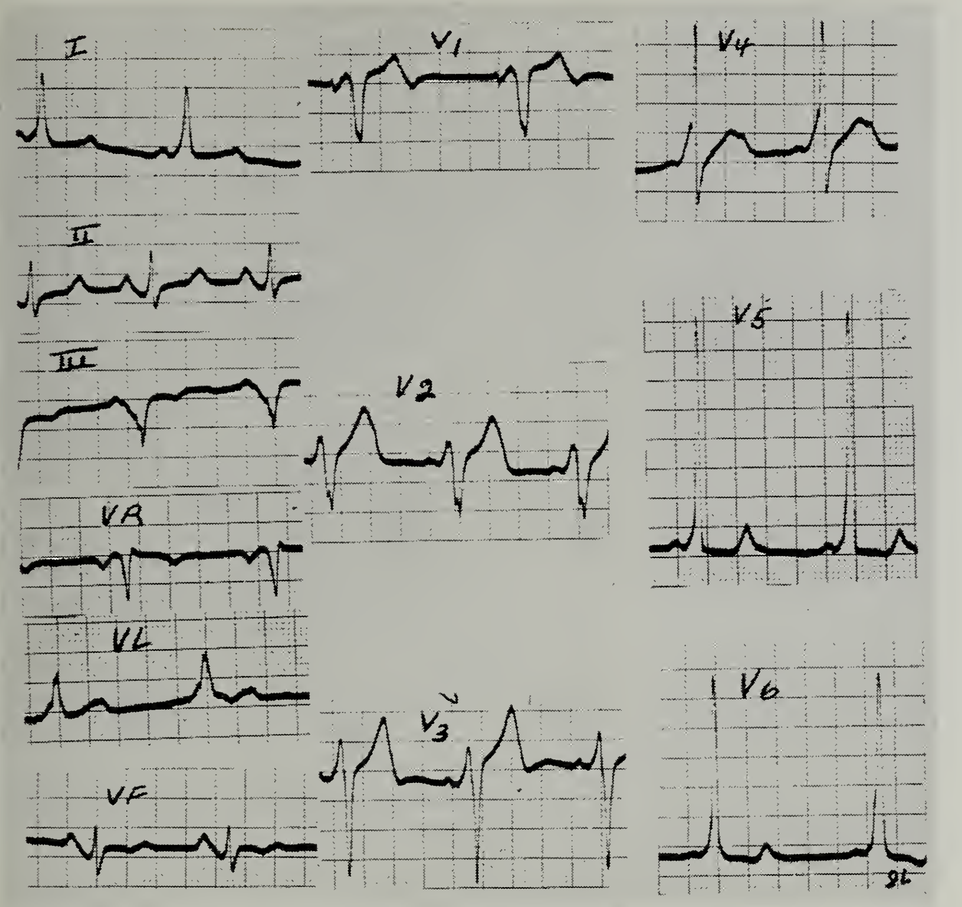


Fig. 6 Electrocardiogram from Case # 2 shows WPW syndrome, type B.

eral pulses was normal. The complete blood count, urinalysis and sedimentation rate were within normal limits. The roentgenogram of the chest showed a very large thoracic cage with a large cardiac silhouette but with no evidence of individual chamber enlargement (Fig. 7). The electrocardiogram, which was essentially unchanged from the one taken at age 15, showed a sinus rhythm, a PR interval of 0.12 sec., QRS of 0.10 sec., deep S in V_1 and tall R in V_6 (Fig. 8). It was interpreted by various observers as showing left ventricular hypertrophy. Cardiac catheterization showed the following normal pressures in mm. Hg: iliac artery 120/63, aortic arch 117/68, left ventricle 128/0/12, pulmonary artery 22/12, left atrium AC 12, V 12, X 4, Z 5 and a mean pressure of 8 mm. Hg. The right ventricular pressure six years prior to this catheterization was 26/0. No explanation could be found for the abnormal electrocardiogram and non-specific symptoms. A vectorcardiogram was taken which revealed the typical features of a WPW syndrome (Fig. 9). Attempts at changing the conduction pathway with 2 mg. atropine sulfate intravenously produced an increase in ventricular rate with no change in the conduction pathway (Fig. 8). Quinidine 3.0 Gm. per day for five days did not change the electrocardiographic configuration.

Comment: This is a case of misdiagnosed heart disease in an anxious young man with an innocent systolic murmur whose electrocardiogram was read as left ventricular hypertrophy and whose vectorcardiogram was diagnostic of the WPW syndrome. Attempts at abolishing the accelerated conduction were felt to be important in order to reassure the patient and the physicians that there was essentially no cardiovascular disease.

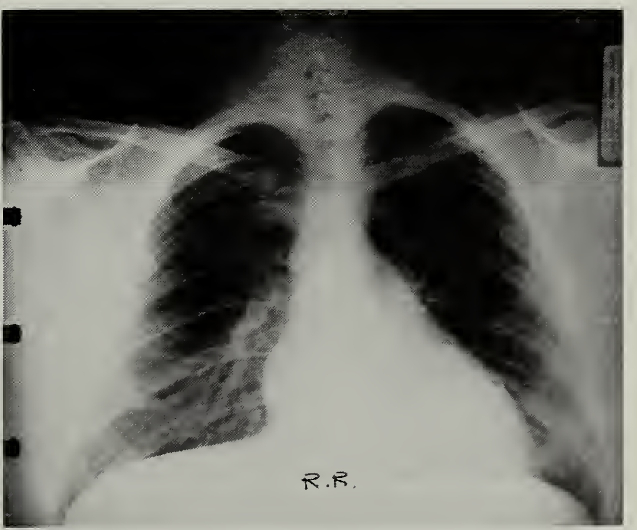


Fig. 7 Chest X-ray from Case # 3 shows very large thoracic cage with relatively large cardiac silhouette.

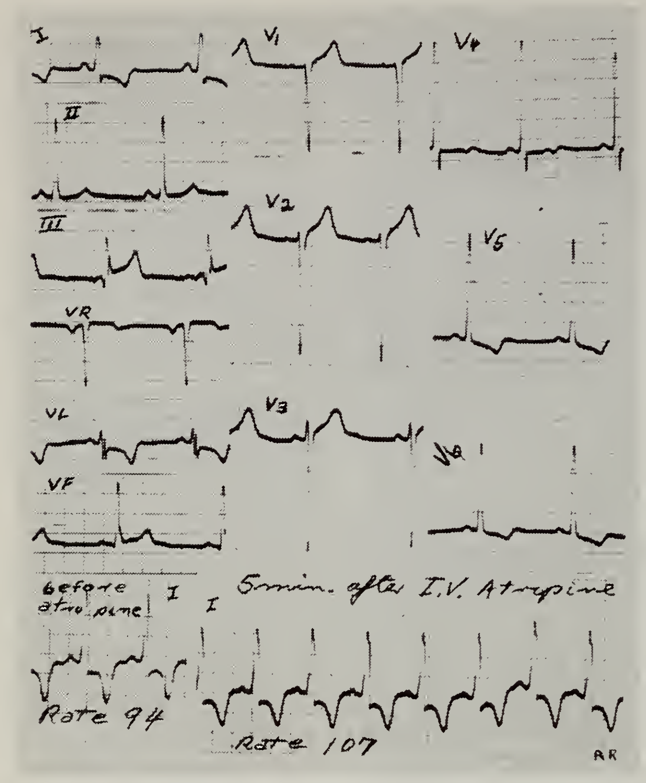


Fig. 8 Electrocardiogram (Case # 3) which was interpreted as left ventricular hypertrophy.

Discussion

There are two main theories explaining the WPW syndrome, the accessory AV pathway theory and the theory of accelerated conduction through the AV node. According to Sodi-Pallares *et al.*[8-10] there is an area in the higher parts of the interventricular septum which does not offer the same resistance to excitability as the AV node and, therefore, the ventricular activation starts early. Two specific points of rapid activation were demonstrated: one near the pulmonic valve in which the ventricular activation is directed anteriorly (type A WPW syndrome), the other near the tricuspid valve in which the ventricular activation is directed posteriorly (type B WPW syndrome). The direction of aberrant conduction also can be demonstrated by vectorcardiography. The pre-excitation occurs through this abnormal pathway before the excitation of the AV node takes place, as the latter poses a greater physiological obstacle. The other main theory is that of accelerated conduction[9-11] through the AV node, which implies that there are areas in the node itself which conduct more rapidly than others. In either case the ventricular depolarization will be abnormal, giving therefore abnormally configurated QRS and T complexes. The well known electrocardiographic criteria for the pre-excitation syndrome are essentially:[1] a PR interval of 0.10 sec. or less in 85% of the cases[5] (although there has been a recent report where the PR interval was 0.12 sec. or greater);[11] a QRS interval greater than 0.10 sec.; and notching and slurring of the ascending limb of the QRS deflection (delta wave). The changes of the T wave will be secondary to the abnormal ventricular depolarization. These changes and the tall QRS voltages which are frequently seen may lead to the erroneous diagnosis of myocardial infarction or left ventricular hypertrophy. The vectorcardiogram will reveal, as the most salient feature in both type A and B, a slow erratic and abnormally directed initial portion of the efferent limb of the QRS loop. This segment corresponds to the delta wave of the QRS complex.

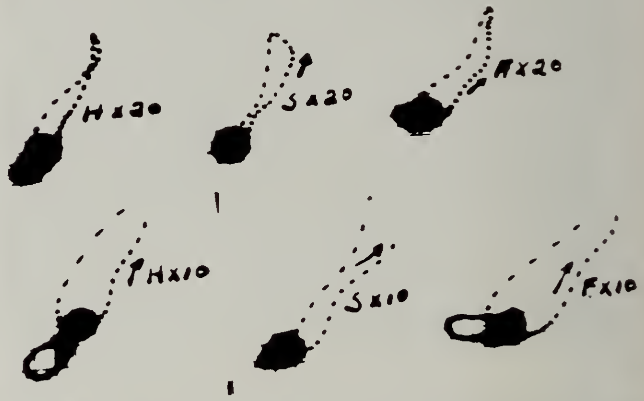


Fig. 9 Vectorcardiogram from Case # 3 which shows WPW syndrome, type B.

The above summary of criteria indicates that in the presence of an accelerated conduction the electrocardiogram and vectorcardiogram may not be useful in making a diagnosis of myocardial infarction or ventricular hypertrophy, and that it is mandatory in some cases to arrest the anomalous atrio-ventricular conduction long enough to analyze the electrocardiogram when the accelerated conduction is not present. This may be achieved by increasing the conductivity of the AV node or by decreasing the excitability of the accessory pathway. Carotid sinus stimulation will depress AV node conductivity. It may produce a nodal rhythm in which the QRS complexes are normal. This method and digitalis or para-sympathomimetic drugs may only increase the ventricular pre-excitation by decreasing the vagal tone on the AV node. Quinidine and procaine amide will have a greater depressant influence on the accessory pathway than on the AV node, therefore permitting in about 30% of the cases a temporary normal conduction. Sympathomimetic drugs enhance conductivity of the normal AV node to a greater extent than on the accessory node; and, finally, atropine will also decrease vagal influence permitting in some instances normal AV conduction. It is impossible to predict which method will be the best, so several of them must be tried in succession. The above concepts have also been emphasized by others.[12]

In our Case # 1 the electrocardiogram with no accelerated conduction showed no myocardial infarction and therefore the type of treatment which the patient received was not entirely indicated. The marked irregularity of the QRS loop[13] and the enzyme elevations led to the suspicion of a myocardial infarction. In Case # 2 attempts to abolish the WPW syndrome were not made, and the results were catastrophic, even though they might not have been preventable. In Case # 3 attempts at obtaining a normal electrocardiogram were made in order to have it on record, re-enforcing in this manner the opinion that the patient most probably had no heart disease. The value of the vectorcardiogram in making the differential diagnosis was definite in this case.

Summary

Three cases of the Wolff-Parkinson-White syndrome have been presented. Emphasis is made on the advisability of attempting to obtain a normally conducted electrocardiogram in those cases in which there is a suspicion of underlying heart disease or in those cases where underlying heart disease is not suspected and has to be definitely ruled out.

Bibliography

1. Wolff, L., Parkinson, J. and White, P. D.: Bundle Branch Block With Short P-R Interval in Healthy Young People Prone to Paroxysmal Tachycardia. Am. Heart J. 5:684, 1960.
2. Wolff, L.: Wolff-Parkinson-White Syndrome; Historical and Clinical Features. Progress in Cardiovascular Diseases 2:677, 1960.
3. Wolff, L., Parkinson, J. and White, P. D.: Syndrome of Short P-R Interval With Abnormal QRS Complexes and Paroxysmal Tachycardia. Arch. Int. Med. 82:446, 1948.
4. Hejtmancik, M. R. and Herman, G. R.: The Electrocardiographic Syndrome of Short P-R Interval and Broad QRS Complexes. Am. Heart J. 54:708, 1957.
5. Massie, E. and Walsh, T. J.: Clinical Vectorcardiography and Electrocardiography. Chicago, The Year Book Publishers Inc., pp. 480, 1960.
6. Packard, J. M., Graettinger, J. W. and Graybiel, A.: Analysis of the Electrocardiograms Obtained From 1,000 Young Healthy Aviators. Ten Years Follow Up. Circulation 10:384, 1954.
7. Averill, K. H., Fosmoe, R. J. and Lamb, L. E.: Electrocardiographic Findings in 67,579 Asymptomatic Subjects. The Wolff-Parkinson-White Syndrome. Am. J. Cardiol. 6:108, 1960.
8. Sodi-Pallares, D. and Calder, R. M.: New Bases of Electrocardiography. St. Louis, The C. V. Mosby Company, pp. 594, 1956.
9. Prinzmetal, M., Kennamer, R., Corday, E., Osborne, Field, J. and Smith, L. A.: Accelerated Conduction, the Wolff-Parkinson-White Syndrome and Related Conditions. New York, Gruen and Stratton, Inc., 1952.
10. Katz, L. N. and Peck, A.: Clinical Electrocardiography, The Arrhythmias. Philadelphia, Lea and Febiger, pp. 679, 1956.
11. Chung, K. Y., Walsh, T. J. and Massie, E.: Wolff-Parkinson-White Syndrome. Am. Heart J. 69:116, 1965.
12. Wolff, L. and Richmann, J. L.: The Diagnosis of Myocardial Infarction in Patients With Anomalous Atrioventricular Excitation (Wolff-Parkinson-White Syndrome). Am. Heart J. 45:545, 1953.
13. Burch, G. E. and DePasquale, H. P.: Electrocardiographic and Vectorcardiographic Detection of Heart Disease in the Presence of the Pre-Excitation Syndrome (Wolff-Parkinson-White Syndrome). Ann. Int. Med. 54:387, 1961.

Decubitus Ulcers (Cont'd.)

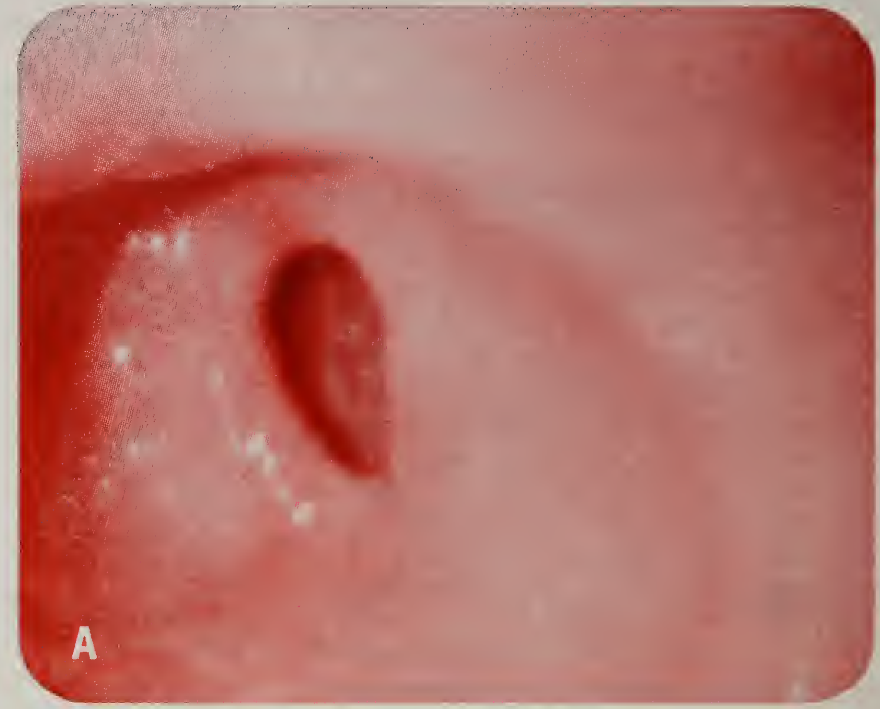
The surgical treatment of the intractable decubitus has been well established and well outlined by many authors. Our experience leads us to believe that if surgery is indicated it must be of a fairly radical nature, involving removal of the ulcer and sufficient surrounding tissue, infected bursae and underlying bone. The technique of excision and grafting is beyond the scope of this discussion.

Summary

Decubitus ulcers are a constant potential and real problem in chronic disease, especially in the cord injured patient. Consideration of the numerous physical factors, nutrition, anemia and infection are necessary in order to successfully prevent or treat this frequent and serious complication. Continued emphasis and training of all personnel involved in patient care, including the physicians, nurses, nursing personnel, dieticians, physical therapists, occupational therapists and others, is essential. Most important, however, is the training of the patient and his awareness of the contributing factors, since he is the member of the health care team with the deepest interest in the prevention of his decubiti.

Bibliography

1. Landis, E. M.: Micro-Inspection Studies of Capillary Blood Pressure in Human Skin, Heart 15:209 (March), 1930.
2. Kosiak, M., Kubicek, W., Olson, M., Danz, J. N. and Kottke, F. J.: Evaluation of Pressure as a Factor in the Production of Ischial Ulcers. Arch. Phys. Med. 34:623, 1958.
3. Wolcott, L. E.: Laxation in Patients With Chronic Disease Utilizing Bisacodyl. Arch. Phys. Med. 44:375, 1963.
4. Leavitt, Lewis A.: Bedsores. Southern Medical J. 56:991, 1963.
5. Kahn, Sidney: A Guide to the Treatment of Decubitus (Pressure) Ulcers in Paraplegia. Surg. Clinics of North America 40:1657, 1960.
6. Wallace, A. B.: Thoughts on Wound Healing and Wound Care. Brit. J. Plastic Surgery 9:543, 1952.



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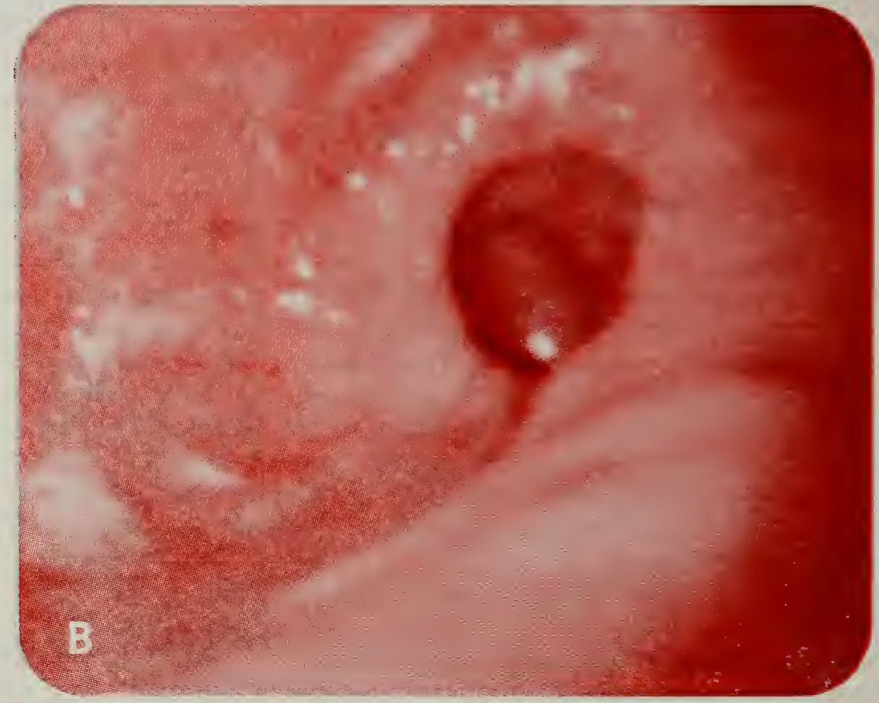

Photographs—Harry Barowsky, M.D., Lawrence Greene, M.D., and Robert Bennett, M.D., from a Scientific Exhibit presented at the Annual Meeting of the American College of Gastroenterology, Bar Harbour, Florida, Oct. 24-27, 1965.

Another example of

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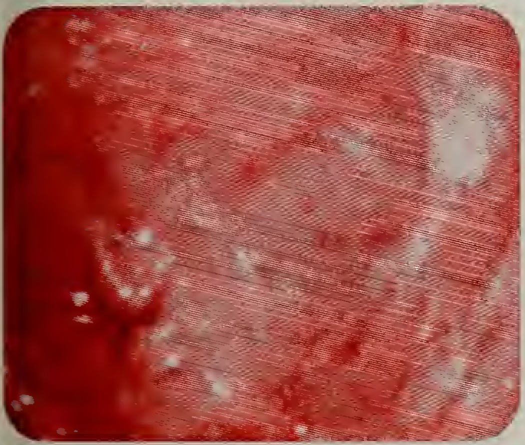

Normal relaxed pyloric antrum; contracted pylorus (pyloric fleurette)

The true anticholinergic values of Pro-Banthīne have never been so graphically realized as they are with the recent development of fibergastroscopy and the intragastric camera.

Pro-Banthīne consistently produces complete relaxation and immobility of the stomach with a dose of only 6 to 8 mg. intravenously. This is less than half the usual dose orally.

Atropine, on the other hand, required 0.8 mg. intravenously, or twice the normal dose, to achieve a similar effect. This high dose of atropine resulted in expectedly adverse side effects.

Pro-Banthīne, in minimal dosage, produces effects similar to pyloroplasty and vagotomy without the disadvantages of permanent post-vagotomy sequelae.

The intragastric photograph A is of a patient who has had pyloroplasty with vagotomy. Photograph B is of a patient given 6 mg. of Pro-Banthīne.

Indications: Peptic ulcer, functional hypermotility, irritable colon, pylorospasm and biliary dyskinesia.

Oral Dosage: The maximal tolerated dosage is usually the most effective. For most *adult* patients this will be four to six 15-mg. tablets daily in divided doses. In severe conditions as many as two tablets four to six times daily may be required. Pro-Banthīne (brand of propantheline bromide) is supplied as tablets of 15 mg., as prolonged-acting tablets of 30 mg. and, for parenteral use, as serum-type ampuls of 30 mg.

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SEARLE

Research in the Service of Medicine

GERARD VAN LEEUWEN, M.D., ***Columbia***

Recent Developments in Neonatology

THE PURPOSE OF THIS REPORT is to summarize briefly the recent advances in the area of the newborn infant, particularly those which have clinical application. To be discussed are: the Respiratory Distress Syndrome (RDS) of prematurity; Infants of Diabetic Mothers; Hemolytic Disease of the Newborn due to Rh sensitization (HD of NB); the Premature Infant; Drug Hazards; Surgery; Infection; Jaundice; Resuscitation; and Screening Tests. McKay and Lucey have reviewed recently the subject of neonatal medical progress.[1, 2]

RESPIRATORY DISTRESS SYNDROME (RDS)

Each year presents many new developments, both from the standpoint of new etiological theories and therapeutic regimens.

The greatest breakthrough in investigation has been the ability to reproduce hyaline-membrane-like disease in experimental animals, notably monkeys and lambs. The pathology and pathogenesis in lambs has been well described.[3] The accumulated data indicate that a group of factors are operational in the etiology of the RDS. Intra-uterine or neonatal anoxia, hypovolemia, bronchospasm and aspiration, separately or together, may lead to pulmonary vascular spasm. Persistence of vascular spasm may result in alveolar necrosis with loss of surfactant and atelectasis and in transudation with membrane formation. A partial solution would require prevention of pulmonary vascular spasm rather than treating it once it has developed.

Numerous attempts to increase the infant's blood volume have been beneficial, although the presence of a diminished blood volume has not been documented. Some approaches in this area are intravenous human serum albumin, placental transfusion, delayed cord clamping and fresh blood transfusions.

Full term infants do have a decreased blood volume after respiratory distress has developed.[4] Blood volumes of 25 premature infants within one hour after birth have been measured in our hospital. Blood volume ranged from 7.7% to 18%. There was no correlation between blood volume and either the incidence or severity of RDS. The decrease which apparently occurs in blood volume after RDS has developed may be related to the intrapulmonary shunting which takes place.

Bicarbonate therapy has been moderately successful in reducing mortality.[5] The method employs the use of $NaHCO_3$ intravenously to correct respiratory acidosis as measured by venous pH determinations.

A more recent approach has been the use of intravenous and aerosol plasminogen activators (fibrinolysins). When the plasminogen activator, Urokinase®, is given a decrease in mortality has been observed. Streptokinase is apparently detrimental.[6] Hyperbaric oxygen has been used but has not resulted in a significant reduction in mortality.[7] Routine use of digoxin to prevent RDS is not recommended.[8] There may be individual cases which would benefit from digitalization. Epsom salt enemas have been advocated to rid the infant of edema.[9] This seems to be inconsistent with other beneficial results obtained with intravenous fluids, and reports are now appearing of infants who were so treated and died.[10] Preliminary evidence has been presented to support the pulmonary vascular spasm with pulmonary hypoperfusion theory.[11] These workers obtained dramatic objective improvement with acetyl choline infusion in a group of distressed infants.

It is likely that the improved results, unrelated as the various regimes appear to be, are at least in part the result of more careful observation and more intensive symptomatic care. The recognition that infants with RDS may require oxygen concentrations in considerable excess of 40% may contribute to improved success. Although the danger of developing retrolental fibroplasia is increased during high oxygen concentration, there is minimal danger of retinal damage if the infant is cyanotic during oxygen therapy. Ideally, oxygen pressure should be measured. If this is not feasible, oxygen may be administered in concentrations necessary to prevent cyanosis. Oxygen therapy is further discussed below.

An entity named Pulmonary Dysmaturity or Interstitial Pulmonary Fibrosis has been described in infants. Hyperpnea and cyanosis may begin shortly after birth or develop during the first month. Radiographically there is pulmonary fibrosis which has been confirmed by postmortem examination. About half the reported infants have gradually improved; the remainder have died from cardiac or pulmonary failure. Three infants in this category have been observed in our hospital. Two died in cardiac failure; the third is quite normal in appearance at the age of eight months, with a near normal chest X-ray. The surviving patient was treated with steroids, which are effective in adults with Idiopathic Pulmonary Fibrosis. There was no detectable response to the drug in our patient.

Unfortunately, long term studies relating to the eventual pulmonary status of infants who recover either from RDS or Pulmonary Dysmaturity have not yet been reported.

INFANTS OF DIABETIC MOTHERS

There has been a gradual decrease in mortality of infants of diabetic mothers during the past several years. This has been accomplished primarily by a reduction in intrauterine deaths. The author recently reviewed clinical developments in infants of diabetic mothers.[12] One recent observation is that these infants have high cord insulin levels at birth.[13]

Two other significant observations have been made. One is the correction of the previous misconception that these babies were edematous. In actuality they are obese.[14] Body fat content of these infants is approximately 18% as compared to 6% in "normal" premature infants. Kyle has demonstrated a correlation between decreasing maternal urinary estriol excretion and fetal distress.[15]

The infants continue to be managed in much the same way as premature infants. Hypoglycemia in infants of diabetic mothers is discussed in the section on the premature infant.

HEMOLYTIC DISEASE OF THE NEWBORN

There is considerably less discussion today as to when an exchange transfusion is indicated for Hemolytic Disease of the Newborn. The only absolute indication for an exchange transfusion is kernicterus.[16] No reliable method exists to detect early kernicterus nor can the infant who is about to develop kernicterus be readily recognized. It is also well known that serum bilirubin determinations may be quite unreliable. Much effort is being exerted to standardize bilurubin determinations.

There is renewed interest in pregnancy interruption. Evidence is presented that mothers who are in the high risk group (previous stillborn) and medium risk group (previously sensitized) should have their pregnancies interrupted at 34-35 weeks and 36-37 weeks respectively.[17] These investigators report a much lower incidence of RDS in their study than would be inticipated. Not all investigators agree that early delivery is beneficial.

A summary of recent advances in the field of neonatal medicine with emphasis on those developments which have clinical application. The author reviews the literature and briefly reports current thinking on such subjects as RDS, hemolytic disease of the newborn, drug hazards and resuscitation. Doctor Van Leeuwen is Assistant Professor, Department of Pediatrics, University of Missouri Medical Center. His work was made possible by Training Grant Ti-AM-5110-08.

Administration of human serum albumin prior to exchange transfusion is well accepted.[18] Albumin, 1 gm/kg., is given via the umbilical vein 1-4 hours before exchange transfusion, or 50 ml. of albumin may be added to a unit of blood after removing 50 ml. of plasma. In either case the objective is to increase the albumin combining capacity of the blood and thus draw more indirect bilirubin from the tissues. This results in removal of 40-50% more bilirubin and decreased post-exchange rebound phenomenon. Albumin should be avoided in the edematous prehydropic infant who is already hypervolemic.

In an attempt to find improved methods of determining the indications for exchange transfusion, the PSP Binding Capacity has been described.[18] The author concludes that a PSP Binding Capacity of less than 50 mcg/ml. serum indicates that most or all of the sites for binding bilirubin to serum albumin are saturated. This is considered potentially dangerous and an indication for exchange transfusion.

Other new approaches, not yet extensively evaluated, are significant. Dr. Liley in New Zealand,[19] and other investigators subsequently, are administering intraperitoneal intra-uterine transfusions in an attempt to prevent hydrops fetalis. The results have been encouraging. In 42 intrauterine transfusions given to 32 Rhesus sensitized mothers, 14 infants were stillborn with hydrops fetalis. The author reports 11 infants born in reasonably good condition, three intrauterine deaths, and one neonatal death. Three mothers had not yet delivered. The procedure is not performed unless examination of the amniotic fluid indicates severe disease. The maternal anti-Rh titer is considered unreliable. The technique is not exceedingly difficult. Dye is injected into the amniotic fluid which is then swallowed by the infant, localizing the peritoneal cavity. Amniography is also performed to locate the placenta. Additional investigation is required to prove the superiority of this method to pregnancy interruption and vigorous immediate treatment of the affected infant.

Other investigators are attempting erythropoietic grafting to change the fetal blood types.[20] Freda and Gorman are attempting to nullify the effect of Rh-cells with anti-Rh gamma globulin.[21] These authors have now inoculated 30 Rh-negative mothers immediately after delivery of an Rh-positive infant. The results of this work will not be available for several years.

When done under proper aseptic conditions, there is usually no indication for the post-exchange transfusion administration of antibiotics.[22] Antibiotics after exchange transfusion have not been prescribed in our nursery for three years, and an increased incidence of sepsis has not been encountered.

The Premature Infant

Attempts at improving neonatal survival have been unrewarding. It is likely that a further reduction in premature mortality will be accomplished only by discovering improved methods of preventing or treating Hyaline Membrane Syndrome, and prevention of prematurity itself. An additional distressing fact is the poor prognosis for normal development of small premature infants.[23] In this study of 50 infants whose birth weight was less than 1,360 gm., 50% were uneducable in normal school classes. Of those who had siblings, 73% were intellectually slower than their siblings. Only four had retrolental fibroplasia. Lubchenco's findings are similar to those described above.[24]

An area in which the degree of permanent brain damage may be significantly reduced is in the prompt recognition and treatment of hypoglycemia. Cornblath has presented an excellent review of this entire subject.[25] There are pitfalls both in diagnosis and therapy. The symptoms are variable but may include eye rolling, jitteriness, cyanosis, apnea, vomiting, seizures and complaining cry. There is usually no symptomatology unless blood glucose is less than 20 mg/100 ml. Two infants whose blood glucose levels were less than 20 mg/100 ml. and who were not symptomatic have been observed in our nursery. In these infants other unknown factors may be operational. The degree of brain damage which may result in an asymptomatic infant with a blood glucose of 20-50 mg/100 ml. is unknown.

In an attempt to avoid overlooking hypoglycemia, serial glucose determinations are obtained in our nursery at least every 12 hours (oftener if the levels are decreasing) in premature infants, infants born of toxemic mothers, infants of diabetic mothers and twins. Intravenous 50% glucose, 2-3 ml., is given before laboratory results are obtained if hypoglycemia is suspected. In symptomatic infants serum calcium determinations are made and 1 ml. of 10% calcium gluconate is given intravenously. As an alternative, glucagon 300 mcg/kg. may be given intramuscularly. The response to glucagon is less dramatic and less consistent. Repeated injections of glucagon will have little effect. Initial therapy is followed with an intravenous drip of 10% glucose, 60 ml/kg/24 hr. If the hypoglycemia recurs or does not respond, 5 mg. hydrocortisone is given daily intramuscularly until normal levels can be maintained without medication.

Although it will be many years before the results can be evaluated, a cautious liberalization of use of oxygen for premature infants may reduce the incidence of brain damage. It has been shown that an infant's oxygen consumption increases as body temperature decreases.[26] Oxygen supplementation probably should be provided for the infant whose body temperature decreases when the environmental temperature is constant, rather than awaiting cyanosis. Frequent measurements of arterial oxygen tension would be even more desirable.

Drug Hazards

The dangers of a large number of drugs both to the fetus and newborn infant, and especially to the premature infant, are now well known. It is known that the average number of drugs a mother receives during pregnancy is four.[27] Several excellent reviews of the effect of drugs on the fetus and newborn have appeared, the most recent of which is by Wilson.[28] Those drugs which have been implicated most recently are presented in Table 1.

Obviously, unnecessary drugs should not be prescribed during pregnancy. An even greater danger is the ingestion of drugs during the very early stages of pregnancy, before the condition has been diagnosed.

This problem is extended into the newborn area more specifically with respect to antimicrobial therapy. In our nursery prophylactic antibiotics have not been prescribed for several years. Rather definite evidence of infection or positive cultures must be present prior to institution of therapy.

Infectious Disease

Selection of drugs for treating neonatal infectious disease has undergone some change. Streptomycin is still acceptable but has become less satisfactory because of the emergence of resistant organisms. For the unknown infection, penicillin, 40,000 U/kg/day and Kanamycin, 20 mg/kg/day for 72 hours are prescribed. Kanamycin has the particular advantage of being effective against both *Staphylococcus aureus* and many gram negative organisms. This drug is a relatively non-toxic one for the premature and newborn infant but should be discontinued after 72 hours.

There has been a marked increase in the gram-negative infections in the newborn infant. In one study 64% of the cases of neonatal meningitis were of gram negative etiology.

Chloramphenicol is not prescribed unless sensitivity studies indicate it to be clearly superior, and then only in doses of 10-25 mg/kg/day and in a well hydrated infant. Staphcillin should be reserved for instances in which cultures and sensitivities indicate it to be the drug of choice.

Jaundice

The list of conditions which produce jaundice of the newborn infant continues to grow. An excellent review of obstructive jaundice in infants has been published recently.[29] An entity first described in 1877, but only recently rediscovered, is the presence in breast milk of some mothers of an inhibitor to bilirubin conjugation. To a lesser degree all breast milk contains this inhibitor. Although the inhibitor is known to be in the lipid fraction, its composition is not yet known.[30] Additional reports of Familial Non-Hemolytic Icterus (Criger-Najaar Syndrome) are appearing.[31] The association of pyloric stenosis with indirect hyperbilirubinemia and occasionally with direct hyperbilirubinemia has recently been described.[32]

Surgery

There are two recent developments of interest in neonatal and premature surgery.

TABLE 1

Maternal Medication	*Effect on Fetus or Infant*
	DEFINITE
Tetracyclines	Tooth discoloration Inhibition of bone growth
Salicylates (excessive)	Neonatal hemorrhage
Aminopterin (and probably other anti-leukemic drugs during first trimester)	Anomalies
Progestins, Estrogens, Androgens	Masculinization
Thalidomide	Phocomelia and fetal death
	PROBABLE
Antihistamines	Anomalies
Meprobamate	Retarded development
Oral Hypoglycemics	Anomalies

Steroids during the immediate post-operative period are said to reduce the incidence of laryngeal edema following intubation and decrease the hazards of aspiration pneumonia. Satisfactorily controlled studies have not been done.

Gastrostomy has been used increasingly in major surgery in the premature infant. It is also reportedly a relatively safe and effective procedure when used in premature infants who become apneic with tube feedings and in those who do not swallow properly.[33] Some authorities question the use of this procedure except in most unusual circumstances.[34]

Resuscitation

Recent animal experiments in resuscitation indicate benefit from intravenous alkali and glucose at birth.[35] The reports to date have involved monkeys, and this method has not yet been evaluated in the newborn infant. The period of asphyxia has been controlled by covering the animals' heads with a rubber bag until at least two minutes after all respiratory effort has ceased. A group of infant monkeys who had been given intravenous alkali (Tris) in 10% glucose from the moment of birth required 75% less time to establish spontaneous respirations after resuscitative measures than a comparable group not treated with these fluids. In another group in which fluids were started at the time of initiation of resuscitation rather than at birth there was not a decreased time of establishment of spontaneous respiration. A probable explanation of what takes place during pH restoration is that energy is made available by glycolysis enabling the brain and myocardium to recover more rapidly, as well as the known fact that myocardial contractility decreases as pH decreases as does the pressor response to epinephrine.

The clinical application of this to the human infant is readily apparent. If these studies can be confirmed, one could then have such intravenous fluids ready to administer via the umbilical vein at the moment of birth. On a practical level this would at least initially involve infants in whom depression was anticipated, as in cases of toxemic mothers, Caesarean section by general anesthesia, delivery after uterine inertia or prolonged labor and many premature infants. The initiation of a cautious clinical experiment in this area is being considered in our hospital. The use of hyperbaric oxygen in resuscitation of the newborn remains experimental.

SCREENING TESTS

A number of screening tests have been developed both for premature and full term infants. These are generally related to three broad areas: congenital anomalies, chromosomal abnormalities and disorders of amino acid metabolism.

In our hospital all infants have a congenital anomaly appraisal at birth in addition to a thorough physical examination. This appraisal includes the following six points: (1) Obtain information about polyhydraminos which is helpful in considering GI or GU obstructive anomalies; (2) Careful observation of abdomen which aids in recognizing diaphragmatic hernia, ascities and intra-abdominal tumor; (3) Passage of nasogastric tube which excludes choanal atresia and esophageal atresia; (4) Aspiration of stomach which leads to the suspicion of intestinal obstruction if more than 20 ml. is obtained or if the fluid is bile-stained; (5) Passage of a rectal catheter which excludes imperforate anus; (6) Examination of umbilical stump which may aid in suspecting renal anomalies if only one artery is present.

Chromosome studies are undertaken on several groups of infants. These include any infant exhibiting anomalies suggesting trisomies, i.e., cleft palate, micrognathia, syndactyly, polydactyly, congenital heart disease, sexual ambiguity and others. Sex chromosome studies are obtained on all males with hypospadias, small penis and bilaterally undescended testicles. These studies are also obtained on all females with an enlarged clitoris, large labia, fused labia and inguinal or femoral hernias.

The weakness in our anomaly screening tests in attempting to study cause and effect is our lack of knowledge of drugs which the mother has taken during the first trimester of pregnancy. The blame for this cannot in the great majority of instances be attributed to the obstetrician. The answer probably lies in reeducating the public to the danger of taking excessive or unnecessary medication during the first trimester of pregnancy or even when pregnancy is a possibility.

A screening test, now in operation in many hospitals, is the Guthrie screening test for phenylketonuria. In addition to this, amino acid paper chromatography of blood samples is performed on all infants born here. Any abnormalities are further studied. Although this test is of unquestionable value, the exact incidence of amino acid metabolism abnormality is not yet known.

The American Academy of Pediatrics has recommended that certain screening tests should be mandatory. These are a blood test for phenylketonuria at least 24 hours after milk has been started and a test for urinary reducing substance.[36]

SUMMARY

A brief review of progress in neonatal medicine is presented. Those developments which have clinical application are emphasized. Suggestions for improved management, particularly in relation to the premature infant, are presented.

BIBLIOGRAPHY

1. McKay, R. J. and Lucey, J. F.: Neonatology. N. Eng. J. of Med., 270:1231 (No. 23), 1964.

2. McKay, R. J. and Lucey, J. F.: Neonatology. N. Eng. J. of Med., 270:1292 (No. 24), 1964.

3. Stahlman, M., LeQuire, V. S., Young, W. C., Merrill, R. E., Birmingham, R. R., Payne, G. A. and Gray, J.: Pathophysiology of Respiratory Distress in Newborn Lambs. A.M.A.J. Dis. Child., 108:375, Oct., 1964.

4. Dobbs, H. A., Jr., Franklin, R. R., Henly, W. S. and Desmond, M. M.: Blood Volume and Respiratory Distress in the Neonate. Circulation, 24:920, 1961.

5. Hutchison, J. H., Kerr, M. M., Douglas, T. A., Inall, J. A. and Crosbie, J. C.: Therapy in Respiratory Distress Syndrome of Newborn. Pediatrics, 33:956, 1964.

6. Gomez, M. F. and Graven, S. N.: Fibrinolysin Treatment of Respiratory Distress. Pediatrics, 34:887, 1964.

7. Hutchison, J. H., Kerr, M. M., McPhail, F. M., Douglas, T. A., Smith, G., Norman, J. N. and Bates, E. A. H.: Studies in Treatment of Pulmonary Syndrome of the Newborn. Lancet, 2:465, 1962.

8. Martin, J. K.: Controlled Trial of Digoxin in Prevention of the Respiratory Distress Syndrome. Canad. M.A.J., 89:995, 1963.

9. Stowens, D.: Epsom Salts for Hyaline Membrane Disease. Presented at American Society of Clinical Pathologists, Miami, Oct., 1964.

10. Van Leeuwen, G.: Magnesium Sulfate for Respiratory Distress. Pediatrics, 35:719 (letter), 1965.

11. Chu, J., Clements, J. A., Cotton, E., Klaus, M. H., Sweet, A. Y., Thomas, M. R. and Tooley, W. H.: The Pulmonary Hypoperfusion Syndrome. Pediatrics, 35:733, 1965.

12. Van Leeuwen, G. and Jackson, R. L.: Infants of Diabetic Mothers (to be published in Clinical Pediatrics).

13. Stimmler, L., Brazie, J. V. and D.: Plasma Insulin Levels in the Newborn Infants of Normal and Diabetic Mothers. The Lancet, 137, Jan., 1964.

14. Fee, B. and Weil, W. B.: Body Composition of Diabetic Offspring by Direct Analysis. A.M.A.J. Dis. Child., 100:718, 1960.

15. Kyle, G. C.: International Diabetes Federation, Toronto, June, 1964.

16. McKay, R. L., Jr.: Current Status of Exchange Transfusions in Newborn Infants. Pediatrics, 33:763, 1964.

(Continued on page 129)

ROBERT BURSTEIN, M.D. *and*
SAMUEL D. SOULE, M.D., *St. Louis*

Pregnancy Maintained After Premature Rupture

Case Reports

Presentation of two cases of spontaneous rupture of the membranes at three-and-a-half to four months gestation. Each mother had been receiving medroxyprogesterone at the time of rupture, and their pregnancies continued to six-and-a-half months and term respectively. Although one infant expired due to atelectasis, neither infant exhibited any gross evidence of abnormalities at birth. Doctors Burstein and Soule are from the Departments of Obstetrics and Gynecology, Jewish Hospital and Washington University School of Medicine.

LABOR USUALLY FOLLOWS spontaneous rupture of the fetal membranes quite promptly. The time interval of a few minutes to 24 hours is most often observed, although we have all noted patients in whom this latent period has been a week or more.

The more premature a pregnancy, the greater a tendency for a longer latent period. All obstetricians have delivered patients who have had what is apparently a rupture of membranes followed by a sealing over of a high rupture site and with progression to term.

An extensive review of the literature reveals a dearth of case reports of pregnancy continuing beyond 30 days after spontaneous rupture of the fetal membranes. Cron *et al,*[1] Burnett,[2] Juskowitz,[3] Gozan,[4] Rucker,[5] Walther[6] and Roth[7] have reported continuation of pregnancy from 50 to 124 days after rupture of the membranes. All of these patients ruptured the membranes at or after mid-pregnancy. Biskind and Biskind[8] report one case with premature rupture of the membranes at the 12th week with delivery at the 36th week. This patient leaked amniotic fluid for only two weeks. Meyer Ruegg[9] reported a case where the membranes were ruptured at 12 weeks to produce an abortion, but the pregnancy continued on until the eighth month ending in the birth of a deformed infant.

We are reporting two cases of premature rupture of the membranes at three-and-a-half to four months gestation with continuation to term in one instance and to almost seven months in the other.

CASE REPORTS

Case # 1: The patient was seen for the first time with this, her first pregnancy, on August 7, 1962. The onset of the last menstrual period was June 16. The uterus was small; the Fern test was positive for ferning (negative for pregnancy); and a frog test was reported as positive. Vaginal cytology indicated a low progesterone effect. When seen again ten days later the uterus was slightly enlarged but the Fern pattern continued positive. Cytology continued to show poor lutein effect. Because the history of delayed menstruation and increasing size of the corpus were consistent with pregnancy but Fern test and cytology indicated inadequate progesterone values, 25 mg. of oral medroxyprogesterone* was prescribed daily. Seven days later this was increased to 50 mg. per day. On August 31 the patient noted cramping. For the first time the vaginal cytology and the Fern pattern revealed progesterone effect compatible with pregnancy. Three weeks later with the patient clinically free of symptoms the dosage of medroxyprogesterone was reduced to 12½ mg. per day. On October 23 the patient noted a sudden gush of fluid and was hospitalized in anticipation of abortion. Free fluid was noted in the vagina. The nitrazine test was alkaline. Vaginal cytology revealed fetal cells. Cramping was minimal. The next day 100 mg. of depo-medroxyprogesterone was given intramuscularly. After four days the leakage had all but stopped and the patient was discharged on bed rest and 100 mg. medroxyprogesterone per day by mouth. The pregnancy continued essentially uneventfully to term except for persistent intermittent loss of fluid.

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* Medroxyprogesterone (Provera®) utilized in this study was made available by Dr. Samuel S. Stubbs of the Upjohn Company.

Fetal cells were found persistently on vaginal smears until delivery. Medroxyprogesterone was continued in decreasing amounts for three months after the rupture. A total of 6,950 mg. of medroxyprogesterone was administered. The patient delivered uneventfully two weeks beyond her expected date of confinement after a three hour labor. A gush of fluid was noted 15 minutes after arriving at the hospital. The child, a male, appeared normal. The placenta was normal on gross and microscopic examination.

Comment: Medroxyprogesterone was administered because of inadequate Fern test and poor lutein level in the vaginal smears. Reversal of both these indices following progestin therapy may have been entirely coincidental. Furthermore, maintenance of the pregnancy may also have been coincidental. Here too, however, the repeated cytologic evidence of fetal cells indicates that there was never a complete repair of a "high rupture." The value of vaginal cytology in the diagnosis of such complications is emphasized.

Case # 2: The patient was a 32-year-old Gravida IV, Para II who was first seen on November 14, 1963 with the history of the last menstrual period October 12. Two previous term pregnancies had been completely normal and the one spontaneous abortion had occurred at three months. On December 10 the patient noted otherwise asymptomatic vaginal spotting. Medroxyprogesterone (40 mg. daily) was begun prophylactically and was maintained until February 8, 1964 when it was decreased to 20 mg. daily. Intermittent spotting persisted. Vaginal cytology revealed a poor progesterone effect. The uterus continued to increase in size to correspond to the menstrual history. On January 11, 10 mg. of oral stilbestrol daily was added empirically to the regimen in a further effort to help control the spotting. On January 18 the patient began to dribble fluid. Vaginal cytology revealed fetal cells. From February 28 until delivery on May 11, a constant alkaline fluid escaped from the cervix. Cytologic examinations were repeatedly positive for fetal cells. Painful uterine contractions were present frequently. Oral medroxyprogesterone was increased to 100 mg. daily and was varied between 100 and 150 mg. depending on the severity of uterine contractions. On March 23 culture of the cervix revealed anerobic streptococci. Antibiotics were prescribed for ten days. Subsequent culture one month later showed no pathogens. On May 11, after a 35 minute labor the patient delivered a 1,440 gm. female by breech extraction over a R.M.L. episiotomy. The infant breathed spontaneously. The placenta was removed manually. Microscopically it appeared normal. The infant seemed to do well but developed a sudden acute respiratory distress and expired two hours after birth.

Post mortem examination revealed the cause of death to be atelectasis. A complete examination of the infant including the pituitary, thyroid, adrenals, pancreas, ovaries and the entire female generative tract failed to reveal any abnormalities. Buccal smears on the infant were diagnosed as normal female. The mother had received 6,850 mg. of medroxyprogesterone and 1,200 mg. of Stilbestrol during the gestation.

DISCUSSION

To our knowledge after a review of the literature there is only one case reported in which the membranes ruptured spontaneously earlier than the two reported above and carried to viability.[8]

When rupture of the membranes is reported with continuation of the pregnancy for such a long period, the diagnosis of rupture is immediately questioned. In both of these cases fluid was seen in the vagina, the nitrazine test was positive[10] and fetal cells were found in the vaginal smears. The reliability of vaginal cytology in the diagnosis of rupture of the membranes has been reported to be in excess of 95% accurate.[11-16]

One significant fact common to both of these cases was that both women received large doses of medroxyprogesterone prior to the rupture of the membranes. The drug was given because of the poor progestational response as determined by vaginal smears and as a prophylactic measure because of bleeding and cramping pain. It is interesting to conjecture the effect of large doses of a progestin in altering the uterine response so as to inhibit contractions and subsequent empyting of the uterus.

The apparent lack of effect of medroxyprogesterone on the fetus is significant. Each of these women received approximately 7,000 mg. of the drug. There was no gross evidence of abnormalities of the babies. Autopsy of the female infant which died revealed no evidence of histologic alteration in any of the endocrine glands or the genital tract. The only positive pathologic finding was atelectasis, anticipated in the death of a 1,440 gm. infant.

SUMMARY

Two cases of spontaneous rupture of the membranes between three-and-a-half and four months of gestation are presented. Each mother had been receiving medroxyprogesterone. The pregnancies continued to six-and-a-half months and term respectively. Although each patient received approximately 7,000 mg. of of medroxyprogesterone through the course of pregnancy, there was no gross evidence of abnormalities in either infant. Autopsy of the female infant, which expired because of atelectasis, revealed completely normal histology of endocrine and genital systems.

BIBLIOGRAPHY

1. Cron, Roland S. and Brown, Richard C.: Premature Rupture of the Fetal Membranes. Obst. and Gynec., 1:234, 1953.
2. Burnett, C. W. F.: Fenestration of the Foetal Membranes. J. Ob-Gyn Br. Emp., 64:79, 1957.
3. Juskowitz, Norman B. and Weinstein, Mortimer S.: Prolonged Premature Rupture of the Membranes. Obst. and Gynec., 3:268, 1954.
4. Gozan, Henry A.: Successful Termination of Pregnancy With 116 Days of Ruptured Membranes. A.J.O.G., 63:920, 1952.
5. Rucker, M. Pierce: Continuation of Pregnancy for 124 Days After Rupture of Membranes in the Twentieth Week. Med. J. and Rec., 132:32, 1930.
6. Walther, Paul M.: Rupture Prematuree des Membranes au 5 Mois: Continuation de la grossesse pendant 73 jouis Placenta Marginee. Bull. Soc. d'Obstet et de Gynec., 19:50, 1930.
7. Roth, Laurence G.: Early Rupture of the Membranes; Significance, Etiology and Prognosis. Obst. and Gynec., 4:87, 1954.
8. Biskind, John I. and Biskind, Leonard H.: Premature Rupture of the Membranes. A.J.O.G., 73:750, 1957.
9. Meyer Ruegg, H. Z.: Zur Pathogenese der Graviditas Extraamnialis. Zentrabl Gynak., 63:594, 1939.
10. Abe, T.: The Detection of the Rupture of Foetal Membranes With the Nitrazine Indicator. A.J.O.G., 39:400, 1940.
11. Averette, H. E., Jr., Hopman, B. C. and Ferguson, J. H.: Cytodiagnosis of Ruptured Fetal Membranes. A.J.O.G., 87:226, 1963.
12. Bourgeois, George A.: The Identification of Fetal Squames and the Diagnosis of Ruptured Membranes by Vaginal Smear. A.J.O.G., 44:80, 1942.
13. Hopman, B. Cornelius: Method for the Detection of Ruptured Membranes Through Examination of Vaginal Cytology. A.J.O.G., 63:1342, 1952.
14. Hopman, B. Cornelius, Wargo, J. D. and Werch, S. C.: Cytology of Vernix Caseosa Cells. Obst. and Gynec., 10:656, 1957.
15. Krieger, Harvey: Papanicolaou Smears in the Diagnosis of Premature Rupture of the Amniotic Sac. Harper Hosp. Bull., 15:123, 1957.
16. Renaud, R., Ritter, J. and Gandar, R.: Revue des Differents Tests de Rupture des Membranes. Bull. Fed. Soc. Gyn et Obst., 14:781, 1962.

Mediastinal Abscess (Cont'd)

showed signs of congestion and the lungs showed signs of pulmonary atelectasis, both conditions suggestive of congestive heart failure which undoubtedly was the immediate cause of the patient's death. The patient's husband, on further questioning, stated that his wife had last eaten chicken five days prior to admission.

COMMENT

Several features present themselves in this case. (1) Intrathoracic lesions may not initially present symptoms or objective findings pointing to the thorax. In fact, the initial evidence may suggest an acute abdomen. (2) Esophageal perforations which go untreated beyond 24 hours result in extremely high mortality. (3) In most cases of mediastinitis the diagnosis might be suspected by a marked progressive shift to the left of the WBC count and the absence of temperature elevation. (4) Present diagnostic methods may be of little or no value in making a diagnosis of perforation of the esophagus and resultant mediastinitis.

Neonatology (Cont'd)

17. Boggs, T. R., Jr.: Rh Disease Pregnancy Interruption. Pediatrics, 33:758, 1964.
18. Waters, W. J. and Porter, E.: Indications for Exchange Transfusions-Albumin Binding. Pediatrics, 33:749, 1964.
19. Liley, A. W.: Intrauterine Transfusion of Foetus in Haemolytic Disease. Presented at American Academy of Pediatrics, New York, Nov., 1964.
20. Allen, F. H., Jr.; Attempts at Prevention of Intrauterine Death in Erythroblastosis Fetalis. New Eng. J. Med., 269:1344, 1963.
21. Freda, V. J. and Gorman, J. G.: Antepartum Management of Hemolytic Disease. Bull. Sloan Hospital for Women, 8:147, 1962.
22. Nelson, J. O., Richard J. and Shelton, S.: The Significance of Bacteremia With Exchange Transfusions. J. Ped., 66:291, 1965.
23. Drillen, C. M.: Incidence of Mental and Physical Handicaps in School Age Children of Very Low Birth Weight. Pediatrics, 27:452, 1961.
24. Lubchenco, L. O., et al: Sequelae of Premature Birth; Evaluation of Premature Infants of Low Birth Weights at Ten Years of Age. A.M.A.J. Dis. Child., 106:101, 1963.
25. Cornblath, M., Wybregt, S. H., Baens, G. S. and Klein, R. I.: Symptomatic Neonatal Hypoglycemia: Studies of Carbohydrate Metabolism in Newborn Infants, VIII. Pediatrics, 33:388, 1964.
26. Tizzard, J. P. M.: Indications for Oxygen Therapy in the Newborn. Pediatrics, 34:771, 1964.
27. Masland, R.: Drugs in Pregnancy. M. Tribune, 4:1-27, Feb. 4, 1963.
28. Wilson, M. G.: Effect of Maternal Medications Upon Fetus and Newborn Infant. Am. J. Obst. & Gynec., 83:818, 1962.
29. Brent, R. L.: Persistent Jaundice in Infancy. J. of Ped., 61:111, 1962.
30. Arias, S.: Presented at Am. Ac. Pediatrics Post Graduate Course in the Premature Infant, New York, March, 1964.
31. Martin, H., Black, O. and Van Leeuwen, G.: Congenital Nonhemolytic Icterus. A.M.A.J. Dis. Child., 107:195, 1964.
32. Nakai, H. and Margaretten. W.: Protracted Jaundice Associated With Hypertropic Pyloric Stenosis. Pediatrics, 29:198, 1962.
33. Berg, R. B., Schuster, S. R. and Coldny, A. H.: Gastrostomy in Feeding Prematures. Pediatrics, 33:287, 1964.
34. Keitel, H. G.: Gastrostomy for Feeding Premature Infants. Pediatrics, 34:293, 1964.
35. Adamsons, K., Jr., Behrman, R., Dawes, G. S., James, L. S. and Koford, C.: Resuscitation by Positive Pressure Ventilation and Tris-hydroxy-methylaminomethane of Rhesus Monkeys Asphyxiated at Birth. J. of Ped., 65:807, 1964.
36. Academy of Pediatrics, News Letter, 16:1, Jan., 1965.

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Paul R. Whitener, M.D.

President's Message

I recently had the privilege of attending the annual Installation of Officers of the St. Louis Medical Society. Mr. James Foristel of the AMA's Washington office was also present, and we were discussing the relative small number of medical organization members who take an active interest in organization meetings. He observed that this lack of interest is especially noticeable in the larger societies, such as Chicago and Philadelphia.

I was trying to think of an explanation for this situation when I suddenly realized that the answer might be found in a statement which Dr. Walter T. Gunn made in his address as Retiring President of the St. Louis Society. He noted that "the major work of this Society is done by committees."

Perhaps we should adjust our harsh appraisal of the average physician-member. Perhaps he is not as derelict in his duty as it sometimes appears.

The medical profession has—as have big business and big labor—hired specialists to manage and administer our organizations. We physicians serve as officers and committee members, shaping policy and planning programs. Committees do the vital research, investigation and study necessary to formulate plans of action, and it is the responsibility of the committees to be aware of the opinions and desires of individual physician-members. If the committee has functioned properly, all of these opinions have been given serious consideration as the committee prepares its final report or recommendation. The average M.D., then, might very logically feel little compulsion to burden his busy schedule with a society meeting if he is confident that his views have already been given fair consideration by his professional associates.

It therefore behooves us to be certain that the committees of our medical organizations are made up of the best trained and best informed physicians among us.

Many things have impressed me during the months which I have served as your President. One of these is the obvious zeal and efficiency with which most of the members of our committees go about their task. I salute all of the committees of the Missouri State Medical Association, and I urge all committee members to continue the effective work which they have been doing.

Paul R. Whitener M.D.

Woman's Auxiliary

Hello again! Since I am writing this the last of December in order to meet the January 1 deadline, my head is so awhirl with Christmas cards, packages, carolling, Christmas Vespers and baking "orgies" that I am not sure what will come out! Please forgive me. And while I am speaking of Christmas, thank you all for your beautiful cards. I appreciated every one of them so much.

Mrs. R. W. Bohnsack

November and December found me visiting several auxiliaries—Buchanan, Grand River, Cole, Pettis and Clay—and having wonderful visits with all of them. I have been received so graciously wherever I have gone and have not been disappointed in the doctors' wives. It is most rewarding to listen to their reports and to learn of their activities in the health field.

While I was attending a beautiful Christmas luncheon at Sedalia, I was saddened with the news of the death of my dear step-mother in Oswego, Kansas. Thanks to the thoughtfulness of Janet Campbell and Jane Stewart in providing me with necessities and directions, I went on from there to attend the funeral. I returned home a bit exhausted and picked up a virus which has prevented my doing all the things that I should have done. I will have to redouble my correspondence activities after the first of the year!

I hope that you all saw the December 6 issue of the *New York Medical Tribune* which contained a story and pictures of our HOOTENANNY FOR HEALTH! The *MD's Wife* will probably carry it later. Eunice Roller sent some wonderful pictures, too, and I plan to have an exhibit at Convention.

I hope you are making plans for our state convention to be held at the Hotel President in Kansas City March 27-30. This will be my "swan song" when I happily turn over the gavel I have treasured for 20 months. I know Wilda Stacey is going to be a wonderful President for us. I hope to greet everyone of you there!

It is time to get reports and Point System sheets to me, archive clippings to Wilda Stacey and Dotty Deyton, bills to Mrs. Crider, dues and memorial lists to Evera Williams and to take account of just what you have accomplished this year toward our ACCENT ON PROGRESS! I hope that I will be able to report many worthwhile things for Missouri in my National reports and that Betty Sutter will be proud of her home state. My goal is for 100% reporting from the county auxiliaries and state officers and chairmen. Will *YOU* help?

It was a pleasure to have Dr. and Mrs. Whitener as guests at our Grand River Christmas dinner. We appreciate the constant help and advice of our doctors and hope that we help to further the cause of medicine in some small way, both here and abroad. Pettis County spent two days packing hundreds of pounds of sample drugs, hospital coats, bandages, journals, etc. for their International Activities program. I know many other groups have done the same. I was so pleased at the reports in the December issue of the *Rx Auxiliary News*. If you have reports and pictures please send them to Lenore Fitzgerald by February 1. And don't forget that the *MD's Wife* is eager to have stories of the activities of the county auxiliaries, too.

See you at CONVENTION???

EDITORIALS

VD REPORTING . . . HOW GOOD IS IT?

It is a known fact that venereal disease rates are an increasing problem of school-age youth. Estimates based on reported statistics (which probably are low) indicate that more than 250,000 young persons between the ages of 15 and 19 years are infected. Twenty percent of all reported VD cases involve persons under the age of 20!

Cases of infectious syphilis have nearly trebled in the past five years, while more than one million new cases of gonorrhea are occurring every year. This is a national tragedy. Only through early diagnosis, treatment, prompt reporting and thorough epidemiological contact tracing can we hope to reverse a tide which is making such deep inroads into the health of young Americans.

The record of VD case reporting in Missouri is not good. In 1960 private practicing physicians reported 40.2% of the primary and secondary cases of syphilis which were seen in the state. Missouri ranked 31st among all of the states in this category of performance efficiency. By 1965 the rate of reporting in Missouri had fallen to 37.1% which placed the state 34th in the nation.

The figures on gonorrhea reporting place Missouri in even a worse light. In 1960 only 13.5% of the cases were reported by private practitioners, putting the state 44th among its sister states. By 1965 the reporting percentage had slipped to 11.6%. In gonorrhea reporting Missouri ranks 47th among all states!

It is especially difficult to understand this lack of physician cooperation when we realize that contact tracing is done in such a manner as to protect the traditional physician-patient privileged communication relationship and at the same time to avoid embarrassment and publicity for all concerned.

Venereal disease is not a disease which involves only one person. There is always a source of infection, and control of the disease relies on bringing the source of infection to treatment. It is not enough for the physician to treat his patient and then retreat into a conspiracy of silence. This is not fair to others.

The Division of Health knows that there are physicians in metropolitan areas of Missouri who are seeing large numbers of VD infected persons, but who are preventing health officers from tracing their contacts. In one area there are at least ten such physicians who reportedly refuse to cooperate with efforts of the city health department to carry out its responsibilities and who refuse to permit their laboratories to report positive reactors to health authorities. The physician who sees only an occasional case and who files no report is no less guilty of hiding possible sources of infection. The single case may not be just an isolated case. It may be an important link in a massive chain of infection, but this can never be ascertained unless epidemiological contact tracing is carried out.

The Control of Venereal Disease Committee of the Missouri State Medical Association hopes that physicians who do not report cases of VD will soon become the very rare exception. Unless *all* physicians report *all* cases, we have little hope of containing and controlling this most serious of communicable diseases.

ARTHUR W. NEILSON, M.D.,
St. Louis,
Member MSMA Committee on
Control of Venereal Disease

WHY WORRY ABOUT GOVERNMENT MEDICINE?

In the wake of doctors' strikes which have now occurred in Canada, Belgium, Italy, Mexico and threatened in England, lay people should have no difficulty in understanding the American doctors' skittishness at having the government as a partner in the care of the ill. All Americans should be interested in the factors which provoke such an unseemly reaction from a profession, which amongst all professions, is most devoted to serving its fellow man, and which demands the greatest sacrifice in preparation, time, and ultimate toll in the individual man's health.

To study government medicine at its best, first hand, last year I visited Scandinavia where socialized medicine is well and long established. My preconceptions were those generally held—that Scandinavian medicine was as progressive and advanced as our own in patient care and in post-graduate education for physicians.

In Denmark I visited a nationally prominent General Practitioner who practices in a small town some 40 miles from Copenhagen. His office, which was in his home, consisted of two examining rooms, one of which served as a consultation room and in the other a small counter in one corner was designated as a laboratory.

Since the government program only pays a General Practitioner for doing sedimentation rates, this was the extent of the laboratory work he routinely performed on his patients, he told us. For other procedures he had a part-time technician, but he could hardly afford to do advanced and expensive laboratory tests for which he would not be reimbursed, and the patient, he explained, was loath to pay for tests himself.

How many diagnoses are being missed in the incipiency of disease which might be uncovered by a simple urinalysis or a blood count? How many patients now enter the hospital, for good medical care it is true, but in a more advanced stage of disease because government restrictions had hindered the proper tests that aid in an early diagnosis. And yet, these restrictions are necessary in order to control costs and to prevent abuses which would lead to increases in the already high health taxes.

Each visit to the doctor requires—for each diagnosis made—the filling out of a separate report form to be filed with the local government health authorities, thus placing the information on public record. This has to be done in order for the doctor to be recompensed for his services. Some patients, to avoid this invasion of their privacy, prefer to come as private patients, even though they pay taxes for the health services.

If the disease progresses to a more serious level, the patient is admitted to the government hospital where specialists take over and the practitioner no longer visits his patient. The GP writes a letter to the specialists outlining the history and receives a final summary when the patient is discharged from the hospital. Under these conditions, it is apparent that there is little stimulus to the practicing doctor to learn more than the most rudimentary medicine. He would rarely be able to work out a diagnostic problem for himself with the limited means available to him, and since he could never follow an important disease through to its conclusion, he could not learn by experience the natural history of the disease. In this framework, it becomes difficult for a physician to recognize important diseases in their early stages.

In their continuing education, it was of interest to note that less than 10% of the General Practitioners of Denmark attend the annual postgraduate course, and less than 3% attend regularly.

I was left with the feeling that even if more people are able to avail themselves of medical care under government auspices, the majority suffered by a diminution in quality.

In pursuing my personal inquiry into what constitutes government medicine, I visited with the dean of the faculty of medicine in one of the larger medical schools in Sweden. He is also professor of social medicine, a field which, as yet, is unheard of in the United States. The substance of the social medicine course is to teach the young doctor how medicine is to be practiced under the regulations set by the government. Also, the student must learn the intricacies of the multitude of forms required for proper government control. Ten to fifteen per cent of Swedish doctors are trained abroad, and on their return to Sweden must take courses over a six months period in social medicine before they can apply for a license to practice.

As in most countries with government controlled medicine, hospitals are staffed by doctors in full or partial pay of the government. The practicing physician refers the patient to the hospital where his care is taken over by the hospital physicians. It is here, the dean told me, that this system produces a gap in the care of the patient. The hospital doctors, he said, "Know all about the sick organ, but nothing about the patient as a whole man."

In keeping the practitioner out of the hospital, he believes that their medical system breaks down and the patient thus suffers. The hospital doctor is apparently not too interested in the psychological or social problems of the patient. Since his exposure to the patient is only transitory, he has no familiarity with the family background, work situation, or with the psychological factors influencing the patient's condition.

In both Denmark and Sweden the exclusion of the local physician from the hospital effectively cuts the practitioner off from the stimulus of contact with the medical teachers. Since the family physician never follows a case of any complexity and can never be involved in arriving at the diagnosis of any but the most ordinary illnesses, he soon must lose his ability to tie in the early symptoms with the later development of disease process. This must surely blunt his diagnostic ability and lead to a longer delay between the onset of serious disease and its definitive treatment. Also, the practitioner cannot be fully aware of the results of his earlier treatment.

In our country, do the regional hospital complexes for heart disease, cancer and stroke, where patients will be referred for special diagnosis and treatment, portent a similar development? In Sweden the exclusion of the practitioner from his patients' care in the hospital is recognized as a weakness in their system. Are we blindly preparing to reduplicate the errors of others?

An interesting bit of additional information given by the dean (indicating an underlying insecurity in the system) was that more than half of the doctors in Sweden have some full or part-time job either in an insurance company, business firm, factory or hospital, with a fixed salary or guaranteed wage. These jobs are actively sought by most doctors to assure them the protection of a fixed income.

In all of the Scandinavian countries there is a serious shortage of doctors and various plans are being devised to provide care for the people in towns with no physicians. There seems to be less of an incentive for young people to go into medicine in Scandinavia than there is here. The effect of government involvement in medical care on our medical school recruitment remains to be seen.

These discussions of the problems of partnership with the government in the care of the patient makes no pretense at being an all-inclusive study. My aim is, rather, to present some of the thoughts and feelings expressed to me by the people with whom I talked while in Scandinavia.

In Norway I met with the dean of one medical school, an assistant professor of medicine in a second medical school and a practicing Pathologist in an important hospital. While government medicine started slowly in Norway in 1913, by 1956 it had become completely socialized. Private practice is almost extinct, except for a last remaining toehold in the city of Bergen. As in Sweden doctors must take courses in social medicine to learn the intricacies of government regulations and the proper use of the many vouchers and report forms. All of the hospitals, being government controlled, are staffed according to a table of organization (as in our army and our government hospitals). A Surgeon, who comes to a city in which all hospital positions are already filled, will have no place to practice Surgery. He must then either do general practice with no hospital affiliation, or he must move elsewhere; there is no other recourse.

The question of utilization (or over-utilization) becomes a big problem and has been a headache in all countries with government medicine. A dramatic example was related to me in Norway by an English engineer who hopes some day to be a part of the "brain drain." He told me about his father who had large varicose ulcers. Since his condition was not considered an emergency, the patient was put on the waiting list and hoped to be admitted to the hospital after about twelve months. In the interim he developed an infection and lymphangitis from the ulcer and was admitted as an emergency for the control of the infection. He was then discharged from the hospital before definitive care of the ulcer was undertaken to await his regular turn for admission. Such a patient might be lucky if his leg could be saved, to say nothing of his life, when his turn finally comes around. It is conceivable that if hospital beds get tight in this country, a strict utilization committee may also have to resort to such decisions.

As a result of my observations I can understand the consternation of many of our conferrees about spawning this type of medicine in our country. However, I still cannot see what is to be gained by a non-participation attitude. The warning has been made by a physician-legislator that failure of the present law can lead to further laws with teeth.

Instead, let us move slowly and carefully into this new venture of government medicine. Let us help our legislators to look at the dangers and avoid the obvious pitfalls and mistakes that have already been made in socialist countries. Rather, let us help to develop our own American way of dealing with the medical needs of our growing population.

Instead of sitting back and bemoaning our fate let us keep the public informed of the meaning of current legislation. Only by keeping our channels of communication to the public open may we hope to influence their understanding of the problem. This requires deserving their confidence by our enlightened thought and planning and by our active participation in social and political conferences and in the definitive decision making.

HARRY STATLAND, M.D., President,
Jackson County Medical Society,
writing in the *Greater Kansas City Medical Bulletin*

LETTER TO A YOUNG MAN

My Son,

Your Mother tells me you have become interested in a possible career in medicine since you have gone away to college. Quite naturally this pleases me for I could hardly regard your decision as a mistake without concluding I had made the same mistake thirty years ago.

At the same time, you must know that this is not a decision to be lightly made. You have been reared in a physician's family so you are aware of the many fine aspects of medicine, but you are also aware that such a choice dictates long hours of work and study and, if you are to be a good physician, a never-ending discipline of improvement of your mind. Looking back upon my own choice, I find I would never have been happy with another; but others would have been far easier.

Should you continue in your desire to study medicine, you will enter the field at an interesting and stimulating time. Not only has the science of medicine burgeoned, so that its mastery becomes increasingly complicated, but you will also find yourself a political figure. You will have become a doctor at one of those times in history when security has been thought more precious than liberty; even a tawdry, second-rate security purchased with the resources of your children and their children. This melancholy cycle will progress to its sad and inevitable conclusion, a dictatorial or semi-dictatorial state, for, historically, politicians never miss such an opportunity.

Thus, it will become your job to maintain a kindly interest in the sick when the individual is becoming only a very small cog in a very big society. In time, this will all prove to be a very great mistake, but you will not live long enough to see the change of heart.

I know I sound like a dismal prophet for medicine, but I would remind you that the healing art is a great and honorable one and that its heritage places it above the current madness of politics. There will be doctors when there are no longer socialists. In this difficult age it will become your job to heal in such a way as to keep untarnished the bright mantle you will assume, for you will pass it on to your descendants in anticipation of times when political expediency is no longer the prime moving force of the age.

Therefore, far from discouraging you from entering medicine, I commend it, so long as you are willing to expend the necessary effort. While you might become a doctor in a more pleasant time, you will be desperately needed and a physician is, first of all, a need.

Present wisdom tells us of ancient wisdom, and we must remember that we now only pass through a temporary but oft-repeated phase of errors, for most humans never really master basic concepts over the long haul. Old Aristophanes knew this and, long ago and under similar conditions, stated it better than I can:

> "Like it or not, rejoicing time has come.
> Most happy now; if happy man there be."

Affectionately,
Your father

(The above letter was written by WILFRED E. WOOLDRIDGE, M.D., Editor of the *Greene County Medical Society Bulletin.* It appeared in the November 1965 issue of the *Bulletin.)*

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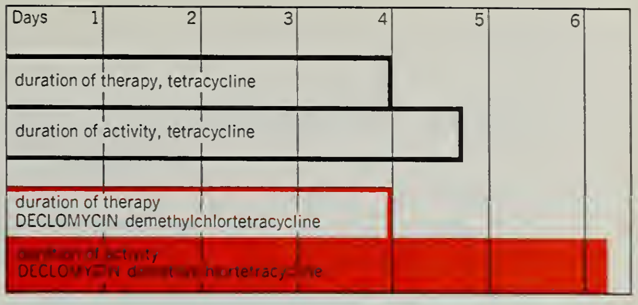

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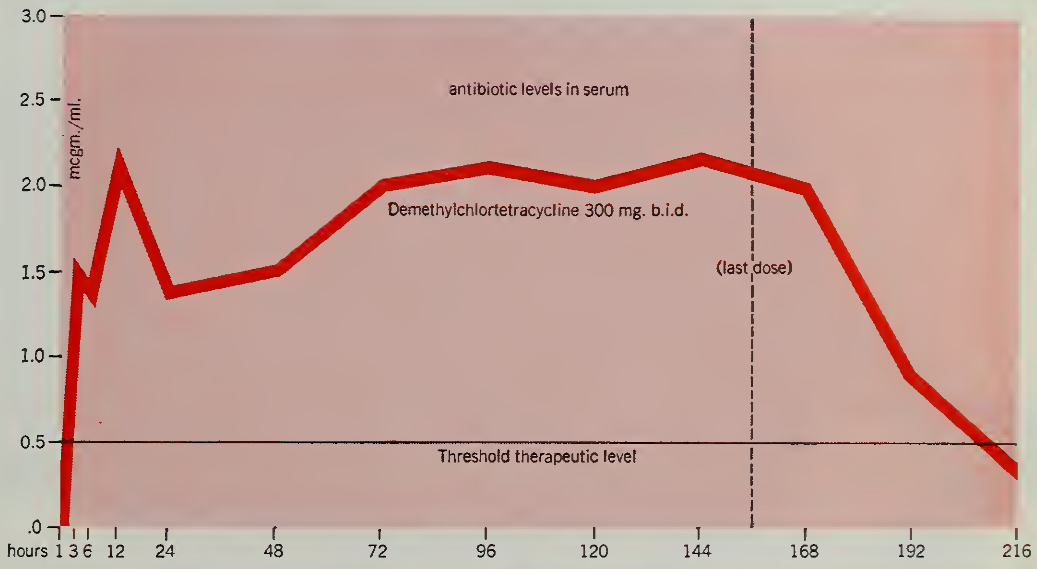
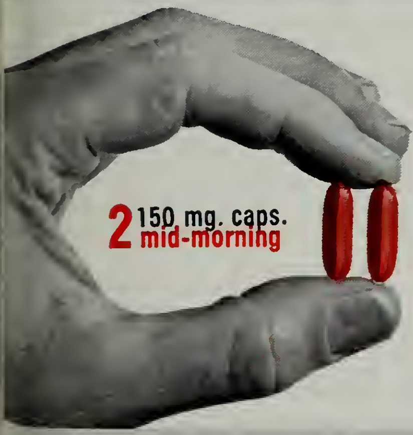


From Sweeney, W. M.; Dornbush, A. C., and Hardy, S. M.; Amer. J. Med. Sci. 243:296 (Mar.) 1962



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New Members

Louis A. Allen, M.D., 2800 Hospital Dr., N. Kansas City, has become a member of Clay County Medical Society. Dr. Allen is a native of Richmond Heights, Missouri, received his preliminary education at Iowa State University and his M.D. degree at the University of Missouri in 1960. He specializes in pathology.

Theodore R. Baldwin, M.D., Lawson, has become a member of Lafayette-Ray County Medical Society. Dr. Baldwin is a native of Hopkins, Missouri, received his preliminary education at Northwest Missouri State University and his M.D. degree at the University of Missouri in 1963. He specializes in general practice.

Edward M. Beheler, M.D., 2405 Frederick, St. Joseph, has become a member of Buchanan County Medical Society. Dr. Beheler is a native of Marlin, Texas, received his preliminary education at Tulane University and his M.D. degree at Tulane University in 1955. He specializes in thoracic surgery.

John F. Benson, M.D., 3737 N. Kingshighway, St. Louis, has become a member of St. Louis Medical Society. Dr. Benson is a native of Richmond, Virginia, received his preliminary education at the University of Pittsburgh and his M.D. degree at Meharry Medical College in 1944. He specializes in obstetrics and gynecology.

Loren Broaddus, M.D., 1550 E. Sunshine, Springfield, has become a member of Greene County Medical Society. Dr. Broaddus is a native of Sedalia, Missouri, received his preliminary education at Drury College and his M.D. degree as the University of Missouri in 1960. He specializes in internal medicine.

Jose Castells, M.D., Lynn at Robberson, Springfield, has become a member of Greene County Medical Society. Dr. Castells is a native of Guanabacoa Havana, Cuba, received his preliminary education at Chandler College and his M.D. degree at Escuela de Medicina, University of Havana in 1952. He specializes in radiology.

Willie S. Cortez, M.D., Missouri State Sanatorium, Mt. Vernon, has become a member of Ozarks County Medical Society. Dr. Cortez is a native of Philippines, received his preliminary education at the University of Santo Tomas and his M.D. degree at the University of Santo Tomas in 1957. He specializes in chest diseases.

Thomas S. Culley, M.D., 807 Stadium Rd., Columbia, has become a member of Boone Coun-

(Continued on page 148)

DEPROL®

meprobamate 400 mg. +
benactyzine hydrochloride 1 mg.

Indications: 'Deprol' is useful in the management of depression, both acute (reactive) and chronic. It is particularly useful in the less severe depressions and where the depression is accompanied by anxiety, insomnia, agitation, or rumination. It is also useful for management of depression and associated anxiety accompanying or related to organic illnesses.

Contraindications: Benactyzine hydrochloride is contraindicated in glaucoma. Previous allergic or idiosyncratic reactions to meprobamate contraindicate subsequent use.

Precautions: *Meprobamate*—Careful supervision of dose and amounts prescribed is advised. Consider possibility of dependence, particularly in patients with history of drug or alcohol addiction; withdraw gradually after use for weeks or months at excessive dosage. Abrupt withdrawal may precipitate recurrence of pre-existing symptoms, or withdrawal reactions including, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, the dose should be reduced and operation of motor vehicles or machinery or other activity requiring alertness should be avoided if these symptoms are present. Effects of excessive alcohol may possibly be increased by meprobamate. Grand mal seizures may be precipitated in persons suffering from both grand and petit mal. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

Side effects: Side effects associated with recommended doses of 'Deprol' have been infrequent and usually easily controlled. These have included drowsiness and occasional dizziness, headache, infrequent skin rash, dryness of mouth, gastrointestinal symptoms, paresthesias, rare instances of syncope, and one case each of severe nervousness, loss of power of concentration, and withdrawal reaction (status epilepticus) after sudden discontinuation of excessive dosage.

Benactyzine hydrochloride—Benactyzine hydrochloride, particularly in high dosage, may produce dizziness, thought-blocking, a sense of depersonalization, aggravation of anxiety or disturbance of sleep patterns, and a subjective feeling of muscle relaxation, as well as anticholinergic effects such as blurred vision, dryness of mouth, or failure of visual accommodation. Other reported side effects have included gastric distress, allergic response, ataxia, and euphoria.

Meprobamate—Drowsiness may occur and, rarely, ataxia, usually controlled by decreasing the dose. Allergic or idiosyncratic reactions are rare, generally developing after one to four doses. Mild reactions are characterized by an urticarial or erythematous, maculopapular rash. Acute nonthrombocytopenic purpura with peripheral edema and fever, transient leukopenia, and a single case of fatal bullous dermatitis after administration of meprobamate and prednisolone have been reported. More severe and very rare cases of hypersensitivity may produce fever, chills, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, anaphylaxis, stomatitis and proctitis. Treatment should be symptomatic in such cases, and the drug should not be reinstituted. Isolated cases of agranulocytosis, thrombocytopenic purpura, and a single fatal instance of aplastic anemia have been reported, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity has been reported, usually after excessive meprobamate dosage. Suicidal attempts may produce lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

Dosage: Usual starting dose, one tablet three or four times daily. May be increased gradually to six tablets daily and gradually reduced to maintenance levels upon establishment of relief. Doses above six tablets daily are not recommended even though higher doses have been used by some clinicians to control depression and in chronic psychotic patients.

Supplied: Light-pink, scored tablets, each containing meprobamate 400 mg. and benactyzine hydrochloride 1 mg.
Before prescribing, consult package circular.

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min K. Neomycin: Patient should be observed for new infections due to bacteria or fungi. *Side Effects:* Sulfonamide: Sensitivity reactions may occur (e.g., skin rashes, anemia, polyneuritis, fever; agranulocytosis with a fatal outcome has been reported). Reduction of thiamine output in the feces and of vitamin K synthesis has been observed. Neomycin: Nausea, loose stools possible.
Before prescribing or administering, read product circular with package or available on request.

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Composition: Each 30 cc. contains neomycin sulfate 300 mg. (equivalent to 210 mg. of neomycin base), succinylsulfathiazole 3.0 Gm., colloidal kaolin 3.0 Gm., pectin 0.27 Gm.

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New Members (cont'd)

ty Medical Society. Dr. Culley is a native of New Orleans, Louisiana, received his preliminary education at the University of Mississippi and his M.D. degree at Vanderbilt University in 1953. He specializes in orthopedic surgery.

David A. Davis, M.D., 510 S. Kingshighway, St. Louis, has become a member of St. Louis Medical Society. Dr. Davis is a native of Danville, Illinois, received his preliminary education at the University of Illinois and his M.D. degree at St. Louis University in 1958. He specializes in radiology.

Sven G. Eliasson, M.D., 660 S. Euclid, St. Louis, has become a member of St. Louis Medical Society. Dr. Eliasson is a native of Malmo, Sweden, received his preliminary education at Malmo Hogre Allmanna Laroverk f, gossar and his M.D. degree at Royal Caroline University of Lund, Sweden in 1954. He specializes in neurology.

Webb S. Hersperger, M.D., 4511 Forest Park, St. Louis, has become a member of St. Louis Medical Society. Dr. Hersperger is a native of Frederick, Maryland, received his preliminary education at Johns Hopkins University and his M.D. degree at the University of Maryland in 1956. He specializes in ear, nose and throat.

Robert D. Holland, M.D., 2623 Luster, Springfield, has become a member of Greene County Medical Society. Dr. Holland is a native of Missouri, received his preliminary education at Missouri University and his M.D. degree as Washington University in 1956. He specializes in pediatrics.

Ira G. Hubbell, M.D., 1630 N. Jefferson, Springfield, has become a member of Greene County Medical Society. Dr. Hubbell is a native of New Haven, Connecticut, received his preliminary education at Missouri University and his M.D. degree at Missouri University in 1963. He specializes in general practice.

Donald Judd, M.D., 1402 S. Grand, St. Louis, has become a member of St. Louis Medical Society. Dr. Judd is a native of Evansville, Indiana, received his preliminary education at Purdue University and his M.D. degree as Indiana University in 1957. He specializes in surgery.

George M. Klingner, Jr., M.D., 1630 N. Jefferson, Springfield, has become a member of Greene County Medical Society. Dr. Klingner is a native of St. Louis, received his preliminary education at Drury College and his M.D. degree at the University of Missouri in 1963. He specializes in general practice.

Philip C. Lehman, M.D., 510 Francis St., St. Joseph, has become a member of Buchanan County Medical Society. Dr. Lehman is a native of Lincoln, Nebraska, received his preliminary education at the University of Nebraska and his M.D. degree at the University of Nebraska in 1958. He specializes in orthopedics.

Alan M. Londe, M.D., 216 S. Kingshighway, St. Louis, has become a member of St. Louis Medical Society. Dr. Londe is a native of St. Louis, received his preliminary education at Washington University and his M.D. degree at Washington University in 1961. He specializes in surgery.

R. Reilly Maginn, M.D., 1325 S. Grand, St. Louis, has become a member of St. Louis Medical Society. Dr. Maginn is a native of St. Louis, received his preliminary education at St. Louis University and his M.D. degree at St. Louis University in 1960. He specializes in surgery.

Richard Marchick, M.D., 4911 Barnes Hospital Plaza, St. Louis, has become a member of St. Louis Medical Society. Dr. Marchick is a native of Cheyenne, Wyoming, received his preliminary education at Harvard University and his M.D. degree at Washington University in 1961. He specializes in obstetrics and gynecology.

Roman L. Patrick, Jr., M.D., 100 N. Euclid, St. Louis, has become a member of St. Louis Medical Society. Dr. Patrick is a native of Engelhard, North Carolina, received his preliminary education at Duke University and his M.D. degree at Duke University in 1957. He specializes in pathology.

Garth Russell, M.D., 2508 Brookside Ct., Columbia, has become a member of Boone County Medical Society. Dr. Russell is a native of Kingsland, Arkansas, received his preliminary education at Kansas State University and his M.D. degree at the University of Kansas in 1959. He specializes in orthopedics.

Edward M. Schaeffer, M.D., 600 S. Glenstone, Springfield, has become a member of Greene County Medical Society. Dr. Schaeffer is a native of St. Louis, received his preliminary education at Westminster College and his M.D. degree at Vanderbilt University in 1960. He specializes in ophthalmology.

G. Van Leeuwen, M.D., 807 Stadium Rd., Columbia, has become a member of Boone County Medical Society. Dr. Van Leeuwen is a native of Hull, Iowa, received his preliminary education at Calvin College and his M.D. degree at the University of Iowa in 1954. He specializes in pediatrics.

Earl J. Wright, M.D., 5513 Scandia La., N. Kansas City, has become a member of Clay County Medical Society. Dr. Wright is a native of Kansas City, received his preliminary education at Westminster College and his M.D. degree at the University of Kansas in 1960. He specializes in pathology.

In Memoriam

Werth, Duncan, M.D., St. Louis, a graduate of Marion Sims College, 1897; member of St. Louis County Medical Society; aged 91; died November 7, 1965.

Meyer, Oscar D., M.D., St. Louis, a graduate of St. Louis University, 1910; member of St. Louis Medical Society; aged 82; died November 18, 1965.

Herrick, Harold C., M.D., LaGrange, a graduate of Barnes Medical College, 1904; member of St. Louis Medical Society; aged 85; died November 19, 1965.

Drace, Charles C., M.D., Webster Groves, a graduate of Beaumont Medical College, 1900; member of St. Louis Medical Society; aged 89; died November 27, 1965.

Commerford, James J., M.D., Crystal City, a graduate of St. Louis University, 1909; member of Jefferson County Medical Society; aged 84; died November 28, 1965.

Erlanger, Joseph, M.D., St. Louis, a graduate of Johns Hopkins College, 1899; member of St. Louis Medical Society; aged 91; died December 5, 1965.

Sewing, Arthur H., M.D., St. Louis, a graduate of Washington University, 1909; member of St. Louis Medical Society; aged 79; died December 6, 1965.

Beers, Ellsworth G., M.D., Seymour, a graduate of Kansas City University Medical College, 1909; member of Webster County Medical Society; aged 87; died December 7, 1965.

Mehan, George T., M.D., St. Louis, a graduate of St. Louis University, 1917; member of St. Louis Medical Society; aged 72; died December 11, 1965.

Jaime, Nicholas, M.D., Kansas City, a graduate of the University of Illinois, 1907; member of Jackson County Medical Society; aged 80; died December 15, 1965.

Henry, Schubert D., M.D., Kansas City, a graduate of the University of Kansas, 1925; member of Jackson County Medical Society; aged 66; died December 18, 1965.

Delzell, William A., M.D., Willard, a graduate of St. Louis University, 1921; member of Greene County Medical Society; aged 80; died December 27, 1965.

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Indications: Indicated in the therapy of acute severe infections caused by susceptible organisms and primarily by bacteria more sensitive to the combination than to either component alone. In any infection in which the patient can be expected to respond to a single antibiotic, the combination is not recommended. Signemycin should not be used where a bacteriologically more effective or less toxic agent is available. *Triacetyloleandomycin, a constituent of Signemycin, has been associated with deleterious changes in liver function.* See precautions and adverse reactions.
Contraindications: Contraindicated in individuals who have shown hypersensitivity to any of its components. Not recommended for prophylaxis or in the management of infectious processes which may require more than 10 days of continuous therapy. If clinical judgement dictates therapy for longer periods, serial monitoring of liver function is recommended. Not recommended for subjects who have shown abnormal liver function tests, or hepatotoxic reactions to triacetyloleandomycin.
Precautions and Adverse Reactions: Triacetyloleandomycin, administered to adults in daily oral doses of 1.0 gm. for 10 or more days, may produce hepatic dysfunction and jaundice. Adults requiring 3 gm. of Signemycin initially should have liver function followed carefully and the dosage should be reduced as promptly as possible to the usual recommended range of 1.0 to 2.0 gm. per day. Present clinical experience indicates that the observed changes in liver function are reversible after discontinuation of the drug.
Use with caution in lower than usual doses in cases with renal impairment to avoid accumulation of tetracycline and possible liver toxicity. If therapy is prolonged under such circumstances, tetracycline serum levels may be advisable. In long term therapy or with intensive treatment or in known or suspected renal dysfunction, periodic laboratory evaluation of the hematopoietic, renal and hepatic systems should be done. Formation of an apparently harmless calcium complex with tetracycline in any bone forming tissue may occur. Use of tetracycline during tooth development (3rd trimester of pregnancy, infancy and early childhood) may cause discoloration of the teeth. Reversible increased intracranial pressure due to an unknown mechanism has been observed occasionally in infants receiving tetracycline. Glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis and definite allergic reactions occur rarely. Severe anaphylactoid reactions have been reported as due to triacetyloleandomycin. Photosensitivity and photoallergic reactions (due to the tetracycline) occur rarely. Medication should be discontinued when evidence of significant adverse side effects or reaction is present. Patients should be carefully observed for evidence of overgrowth of nonsusceptible organisms including fungi, which occurs occasionally, and which indicates this drug should be discontinued and appropriate therapy instituted. Steps should be taken to avoid masking syphilis when treating gonorrhea.

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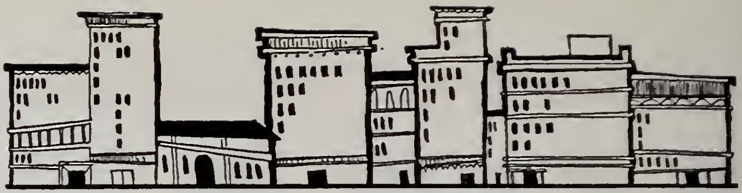
From the Medical Schools



WASHINGTON UNIVERSITY

Dr. Joseph Erlanger, Professor Emeritus of Physiology at Washington University School of Medicine and 1944 Nobel Prize winner, died December 5, 1965, after a brief illness. He was 91 years old. Doctor Erlanger had been a faculty member since 1910 and served as head of the Department of Physiology until his retirement in 1946. In 1944 he shared the Nobel Prize with the late Dr. Herbert S. Gasser for their work done at Washington University on the function of applying the cathode ray oscillograph to the study of nerves.

The John and Adaline Simon Chair in Medicine has been established at Washington University and Jewish Hospital of St. Louis through a $500,000 donation by Mr. Simon, a St. Louis investment banker. The first recipient of the professorship for the Chair is Dr. Stanford Wessler, physician-in-chief at Jewish Hospital and professor of medicine at the School of Medicine.

A portrait of Dr. W. Barry Wood, Jr., has been presented to the School as a gift of physicians who trained under him while he served as Busch Professor and head of the Department of Medicine from 1942 until 1955. He is now Chairman of the Department of Microbiology at Johns Hopkins School of Medicine.

A portrait of Dr. Carl A. Moyer, former Bixby Professor of Surgery and head of the Department of Surgery, has also been presented to the School. The painting is a gift of 40 surgeons who trained under Dr. Moyer, who resigned last fall and is now Director of Research at Michigan Technological University, Houghton, Michigan.

UNIVERSITY OF MISSOURI

The University of Missouri has been awarded a grant of $27,950 by the National Institutes of Health in support of research into the effects of environmental factors on the intestinal function of absorption. The project is under the direction of Dr. X. J. Musacchia, Professor of Physiology, and is sponsored by the University's Space Science Center.

Doctor Musacchia said the long-term aim of the research is to enable a more complete understanding of the effects of environmental factors on intestinal function, and to support an expansion of studies of the mechanics of intestinal absorption in a variety of animals. The animals will include those which tolerate low temperatures naturally, such as hibernators, reptiles and fish, and those which can only be forced to tolerate low body temperatures, such as mammals in hypothermia.

A distinguished six-man guest faculty will be featured at the Cardiology Conference Feb. 9-10 at the Medical Center Auditorium. Included on the guest faculty are Dr. Thomas W. Mattingly, Washington, D. C.; Dr. Herbert B. Zimmerman, St. Louis; Dr. Brent M. Parker, St. Louis; Dr. J. L. Ehrenhaft, Iowa City, Ia.; Dr. Arthur J. Seaman, Portland, Ore.; and Dr. William E. Neville, Hines, Ill.

A number of the country's top thyroid researchers will comprise the guest faculty at the second Midwest Conference on the Thyroid Feb. 25-26. Investigators in over ten separate academic and research disciplines will participate in the two-day meeting at the Memorial Student Union.

ST. LOUIS UNIVERSITY

A series of Medical Center lectures presented monthly during the academic year by members of the faculty is open to interested physicians. Dr. Maurice Green, Director of the Molecular Virology Institute, will speak on "Biochemistry of Adenovirus Replication and Tumorigenesis" on February 2. Dr. Arthur E. McElfresh, Jr., Professor and Chairman of the Department of Pediatrics, will deliver a lecture entitled "The Detection of the Carrier State as an Adjunct in Genetic Counseling" on March 8.

Dr. Robert H. Felix, Dean of the School of Medicine, delivered Columbia University's 18th Annual series of Bampton Lectures in America. The topic of the series of four lectures was "Mental Illness—A Yielding Enigma."

Thirty-five medical students and 15 nursing students posed as patients in a simulated mass disaster at the University Hospitals December 8 to test the condition of readiness to accommodate an actual disaster. Representing victims of an explosion, the students were transported by ambulance from Rogers Hall and by station wagon from Glennon Hall to the emergency room area of Firmin Desloge Hospital. The St. Louis Police Department coordinated efforts in testing the simulated mass casualty plan.

OFFICIAL NOTICE

Proposed Amendment to Article V, MSMA Constitution

At the 1965 Annual Session of the Missouri State Medical Association the President, Leonard T. Furlow, M.D., recommended that the immediate Past President of the Association serve as a member of the Council for the year following his term of office as President. The recommendation was approved by the Reference Committee on Constitution and By-Laws and by the House of Delegates. Since this proposal requires a change in the Constitution and any such Constitutional amendment must lie on the table for one year before final action is taken, this will constitute formal notice that the following proposal will be presented to the 1966 Annual Session of the Association for final action:

"Amend the Constitution, 1965 Revision, page 3, Article V, line 7, after the comma, following the words President-Elect by inserting the following words: 'immediate Past-President.'"

Memo to
all in the
Medical Profession

A chilled bottle of 7-Up can really help brighten a patient's day. Seven-Up is a pure, wholesome beverage that is just as famous for its consistent high quality and uniformity as it is for its clean, fresh lemon-lime flavor. All of the 7-Up ingredients are clearly listed on the bottle for all to see. Seven-Up is made in plants that are as clean and sparkling as 7-Up itself.

Seven-Up quenches thirst quickly and completely by restarting the natural moisture in the mouth and throat. We sincerely hope you enjoy 7-Up and speak well of it for your friends and patients.

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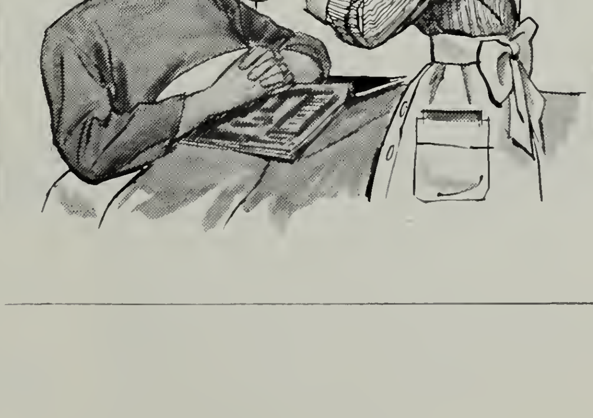
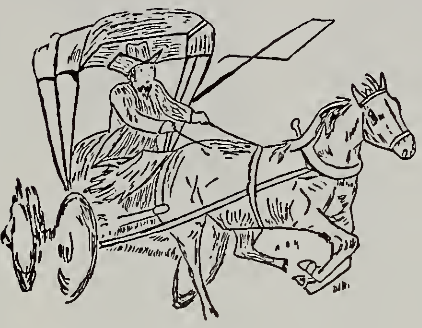


Missouri Medicine in Review



FORTY YEARS AGO

One of the largest gatherings of members of the St. Louis Medical Society ever assembled crowded the meeting rooms in their building at 3525 Pine Street on the night of January 5 for the annual meeting. The incoming President, Dr. Amand Ravold, announced that relatives of the late Dr. John D. Shapleigh had contributed $45,000 toward the erection of the auditorium as a memorial to Dr. Shapleigh. New officers of the Society are: President, Amand Ravold; 1st Vice President, C. A. Vosburgh; 2nd Vice President, Floyd Stewart; Secretary, E. C. Funsch (re-elected); new Councilors, Fred W. Bailey, R. E. Schlueter, H. Unterberg and J. F. Mayes.

The Jackson County Medical Society held its first meeting in the quarters reserved for its use in the newly completed Medical Arts Buiding at 34th and Broadway, Kansas City. New officers who were installed at this meeting are: President, Robert McE. Schauffler; President-Elect, Clyde O. Donaldson; Treasurer, Albert J. Welch; Secretary, Oliver S. Gilliland; new members of the Executive Council, Kerwin K. Kinard and Morris B. Simpson.

At the meeting of the Jackson County Medical Society on January 26, the Bell Telephone Company gave a demonstration of the operation of a telephone switchboard. Members were able to observe the intricate machinery developed in operating the telephone and to see how calls are put through with the numerous devices and attachments. Kansas City reportedly has the largest number of automatic telephones in operation in any of the larger cities in this country.

TWENTY-FIVE YEARS AGO

Fatal accidents in 1940 are expected to exceed those in 1939 by about 5,500. Deaths resulting from automobile accidents are estimated at 34,500, an increase of 2,000 over those in 1938 or 1939, but 5,000 fewer than in 1937. The greatest catastrophe in number of lives lost during 1940 was the dance hall fire in Mississippi in which 210 persons died.

Parke-Davis & Company of Detroit is celebrating its diamond anniversary in 1941. The company began as a small drugstore in Detroit in 1866. The offices and research and manufacturing laboratories now occupy six blocks and a 700 acre farm at Rochester, Michigan.

If anyone doubts the universality of science, he should read "Why Smash Atoms" (Harvard University Press, Cambridge, Massachusetts) by Arthur K. Solomon. The collaboration of research workers of every nationality has developed understanding of the atom and has extended the use of the atom even to the treatment of disease.

The St. Louis Medical Society's annual pilgrimage to William Beaumont's grave was held on Thanksgiving Day, November 21, 1940. Dr. Cyrus E. Burford deposited a wreath as President of the Missouri State Medical Association and Dr. Herbert S. Langsdorf did likewise as President of the St. Louis Medical Society.

TEN YEARS AGO

The staff at St. John's Hospital in Joplin has elected Eugene H. Hamilton, M.D., as President. —At a recent meeting in Chicago of the Radiological Society of North America, C. Edgar Virden, M.D., Kansas City, was elected President-Elect.—At the annual meeting of St. Mary's Hospital, Jefferson City, Everett D. Sugarbaker, M.D., was elected President of the staff. August P. Stephan, M.D., was elected Vice President; and B. E. Watts, M.D., Secretary-Treasurer.

Dr. Vilray P. Blair, internationally known St. Louis plastic surgeon and professor emeritus of clinical surgery at Washington University School of Medicine, died November 24 in Clayton. He was 84 years old.

At the November meeting of the West Central Missouri Medical Society, the dentists and lawyers of the five-county area were invited guests. This was a stag affair held at the Nevada Country Club and attended by 38 persons from the three professions.

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Illustrations should be glossy prints or drawings in India ink on white paper. They should not be mounted and name of author and figure number should be penciled lightly on the backs. Legends should appear on a separate sheet. Colored illustrations will be used when suitable if author assumes the actual cost.

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Program

108th Annual Session

MISSOURI STATE MEDICAL ASSOCIATION

Muehlebach Hotel, Kansas City **March 27-30, 1966**

Sunday, March 27

12:00 NOON Registration of Delegates.
1:30 PM House of Delegates Meeting, opening session.
3:00 PM Reference Committee meetings.
7:00 PM Reception, Dinner and Entertainment (Sponsored by the Jackson County Medical Society Woman's Auxiliary.)

Monday, March 28

8:00 AM Registration
8:30 AM Welcome—Paul R. Whitener, M.D., President Missouri State Medical Association.
8:35 AM *What's New . . .*
Moderator: Philip Byers, M.D., Kansas City.
1. . . . *in Kidney Disease?*, John Arnold, M.D., Kansas City.
2. . . . *in Ob-Gyn?*, Brooks Ranney, M.D., Yankton, S.D. (Sponsored by MSMA Committee on Maternal Welfare.)
3. . . . *in Radiology?*, William E. Powers, M.D., St. Louis. (Sponsored by Missouri Radiological Society.)
4. . . . *in Anesthesia?*, Kenneth K. Keown, M.D., Columbia. (Sponsored by MSMA Committee on Anesthesiology.)

10:00 AM Intermission to view exhibits.
10:30 AM *Convulsive Disorders in Childhood.*
Moderator: Peter G. Danis, M.D., St. Louis.
1. *The EEG as a Diagnostic Tool in the Infant and Child,* J. L. O'Leary, M.D., St. Louis.
2. *Convulsions in the Infant and Child—Chemotherapeutic Control,* Joyce E. Devine, M.D., St. Louis.
3. *Organic Retardation, Behavior and Learning Problems of the Child—Differential Diagnosis, Prognosis and Avenues of Treatment,* Clement E. Brooke, M.D., Columbia.

10:30 AM *Management of Pain.*
Moderator: Robert Felix, M.D., St. Louis.
1. *Pharmacological Agents for Pain,* Hugh S. Mathewson, M.D., Kansas City.
2. *Migraine and Other Vascular Headaches,* Stewart Wolf, M.D., Oklahoma City, Okla.
3. *Neurosurgeon Looks at Pain,* Leonard T. Furlow, M.D., St. Louis.

12:00 NOON Committee on Maternal Welfare Luncheon.
Fifty-Year Club Luncheon.
General Luncheon: *The Whole Man,* Rev. Dr. Paul B. McCleave, AMA Department of Medicine and Religion, Chicago, Ill.
2:00 PM *Management of Arthritis.*
Moderator: Ralph A. Kinsella, M.D., St. Louis.
1. *Treatment of Rheumatoid Arthritis,* Howard F. Polley, M.D., Rochester, Minn.
2. *Newer Concepts of the Pathogenesis of Acute Gouty Arthritis,* J. E. Seegmiller, M.D., Bethesda, Md.
3. *New Findings on the Pathogenesis of Rheumatoid Arthritis,* Joseph L. Hollander, M.D., Philadelphia, Pa.

2:00 PM *Surgical Session.*
Moderator: Wilbur P. McDonald, M.D., St. Joseph.
1. *Endocrine Prophylaxis and Early Diagnosis of Breast Cancer,* Henry P. Leis, Jr., M.D., New York, N. Y. (Sponsored by Missouri Surgical Society.)
2. *Treatment of Large Thermo Burns,* William F. Monafo, M.D., St. Louis.
3. *Pre and Post Operative Prophylactic Antibiotics,* William Cole, M.D., St. Louis.

3:30 PM Intermission to view exhibits.
4:00 PM House of Delegates meeting, second session.
Followed by: Annual membership meeting, Missouri State Medical Foundation.
5:30 PM Reference Committee Meetings.

Tuesday, March 29

8:00 AM Registration.

8:30 AM *The Management of Common Eye Disorders.* (Sponsored by the Missouri Ophthalmological Society.)
Moderator: Truman B. Schertz, M.D., North Kansas City.
1. *Management of Eye Injuries,* W. Howard Lewin, M.D., St. Louis.
2. *Eye Manifestations of Systemic Disorders,* Felix N. Sabates, M.D., Columbia.
3. *Differential Diagnosis of the Red Eye,* Theodore E. Sanders, M.D., St. Louis.

8:30 AM *Current Concepts in Thyroid Disease.*
Moderator: Thomas F. Frawley, M.D., St. Louis.
1. *Thyroid Physiology and the Development of Thyroid Disease,* William W. Engstrom, M.D., Milwaukee, Wis.
2. *Subacute and Chronic Thyroiditis,* J. Earle White, M.D., Columbia.
3. *Hyperthyroidism and Exophthalmos,* Thomas F. Frawley, M.D., St. Louis.

8:30 AM *What's New in Reducing Neo-Natal Mortality?*
Moderator: Ned W. Smull, M.D., Kansas City.
1. *Bleeding Problems of the New-Born Infant and Prevention of Hemolytic Diseases in Utero,* Arthur E. McElfresh, M.D., St. Louis.
2. *Hypoglycemia and Acid Base Upset,* Robert Jackson, M.D., Columbia.
3. *Respiratory Distress as a Cause of Neo-Natal Mortality,* Herbert C. Miller, M.D., Kansas City, Kan.

10:00 AM Intermission to view exhibits.

10:30 AM *Scientific Symposium.* (Sponsored by the Missouri University Medical Alumni.)
The Neglected Venous System, Oscar V. Batson, M.D., Philadelphia, Penn., Recipient of the 1966 M.U. Medical School Alumni Award.
Discussion and Question-Answer Session:
Moderator: Doctor Batson
Panelists: Marion S. DeWeese, M.D., Columbia
Lynn O. Litton, M.D., Columbia
C. Thorpe Ray, M.D., Columbia
John S. Spratt, Jr., M.D., Columbia
Arch W. Templeton, M.D., Columbia

12:00 NOON Missouri University Alumni Luncheon.

1:30 PM *Medicare.*
Moderator: Avery P. Rowlette, M.D., Moberly.
1. *Plan of Operation,* Robert L. Bost, Deputy Director, Bureau of Health Insurance, Social Security Administration, Baltimore, Md.
2. *How It Affects Missouri Welfare Program,* Proctor N. Carter, Director, Division of Welfare, Jefferson City.
3. *Problems and Potentials of Medicare,* Ernest B. Howard, M.D., Chicago, Ill.

1:30 PM *Care of the Traumatized Patient.* (Sponsored by MSMA Committee on Trauma.)
Moderator: Richard E. Lord, M.D., St. Louis.
1. *Treatment of Shock in the Severely Injured Patient—Old and New Concepts,* J. William Hillman, M.D., Nashville, Tenn.
2. *Non-Penetrating Injuries to the Abdomen,* C. Alan McAfee, M.D., St. Louis.
3. *Management of the Crushed Chest,* John H. Mayer, Jr., M.D., Kansas City.

3:00 PM Intermission to view exhibits.

3:30 PM *The Management of Carcinoma In Situ—The Follow-Up of a Positive Pap Smear.* (Sponsored by the Missouri Division, American Cancer Society.)
Moderator: Felix Rutledge, M.D., Houston, Texas.
Participants: B. J. Masterson, M.D., Kansas City.
Alfred I. Sherman, M.D., St. Louis.
Axel N. Arneson, M.D., St. Louis.
William T. Griffin, M.D., Columbia.

3:30 PM *Use and Abuse of Transfusions, Antibiotics and Steroids.*
Moderator: Harold Lurie, M.D., Springfield.
1. *Use and Abuse of Transfusions,* Virgil Loeb, M.D., St. Louis.
2. *Choice and Dose of Antibiotics,* R. William Burmeister, M.D., St. Louis.
3. *Use and Abuse of Steroids,* Michael M. Karl, M.D., St. Louis.

5:00 PM Intermission to view exhibits.

7:30 PM Banquet honoring Past Presidents of MSMA.
Speaker: The Honorable Warren E. Hearnes, Governor of the State of Missouri.

Wednesday, March 30

7:30 AM House of Delegates meeting, breakfast and final session.

YOU and the Drug Abuse Control Amendments of 1965

by

C. JOSEPH STETLER, LL.M.*

ON February 1, 1966, PL 89-74 went into effect. As has been widely publicized, its purpose is to curb drug abuse through the curtailment of illicit drug traffic. To accomplish this, the law establishes special controls over the manufacture and distribution of depressant and stimulant drugs. Among these controls is the keeping of records of the manufacture, sale, delivery and receipt of such drugs, and it is to this matter of record-keeping, insofar as it refers to physicians, that I would like to invite your attention.

Recently, there has been some confusion as to what records a physician must keep under PL 89-74. Putting it simply, *they are not required to keep records as a consequence of this law unless, in the course of their practice, they dispense the drugs referred to and charge for them.* The law is quite clear on this, and I quote from that part of the Act relating to record-keeping:

> "The provisions of paragraphs (1, Records) and (2, Inspection) of this subsection shall not apply to a licensed practitioner . . . with respect to any depressant or stimulant drug received, prepared, processed, administered or dispensed by him in the course of his professional practice, unless such practitioner regularly engaged in dispensing any such drug or drugs to his patients for which they are charged, either separately or together with charges for other professional services." The key phrases in this paragraph are the words "regularly engaged" and "for which they are charged."

Further in this regard is a quote from the House Report of the Commitee on Interstate and Foreign Commerce on H.R. 2 which became PL 89-74:

> "The committee intends . . . to require record-keeping and to permit inspection in the case of those physicians who maintain a supply of pharmaceuticals or medicinals in their offices from which they compound prescriptions for their patients for a fee."

The language of the Senate Committee Report is identical. Both committee reports stated that those required to keep records "involve only a very small percentage of physicians."

The proposed regulations underscore this

PUBLIC LAW 89-74

. . . These record-keeping requirements do not apply to a "licensed practitioner . . . with respect to any depressant or stimulant drug received, prepared, processed, administered or dispensed by him in the course of his professional practice, unless such practitioner regularly engages in dispensing any such drug or drugs to his patients for which they are charged, either separately or together with charges for other professional services." . . . In its testimony before the House Interstate and Foreign Commerce Committee last year, the AMA objected to the physician record keeping provisions, and the vagueness of the term "dispensing physician" since it could include almost all practicing physicians. This comment, and other suggestions made with respect to proposed regulations, were instrumental in the formation of the final regulations, published in the *Federal Register* on January 27, 1966. The regulations now state that: "The maintaining of small supplies of these drugs for dispensing or administering in the course of professional practice in emergency or special situations (for example, as a stopgap measure to tide patients over until a regular supply of drugs can be obtained by prescription from a pharmacy, or dispensing as trial doses to patients), will not be considered as regularly engaged in dispensing for a fee."

AMA Legislative Roundup
January 28, 1966

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* Mr. Stetler is President of the Pharmaceutical Manufacturers Association and a former General Counsel of the American Medical Association.

point, indicating that ". . . maintaining of small supplies of these drugs for dispensing or administering in the course of professional practice in emergency or special situations will not be considered as regularly engaged in dispensing for a fee."

FOR those physicians who, in the course of their practice, *regularly dispense drugs and charge for them,* certain records are required to be kept for three years, effective February 1, 1966. Included are: a complete, accurate record of all depressant and stimulant drugs on hand February 1, 1966; a complete, accurate record of the kind and quantity of each drug received, sold, delivered or otherwise disposed of; the name, address (and registration number under Section 510 (e) of FDCA) of the person from whom the drugs were received, and to whom they were sold, delivered, dispensed or otherwise disposed of; and the date of the transaction. No separate form for these records will be required as long as the information specified is available.

Summing up, under PL 89-74 physicians do not have to keep records *unless* they regularly dispense the drugs covered by the Act and charge for them.

Surgical Society Announces Annual Meeting Plans

The Missouri State Surgical Society will hold its 9th Annual Meeting in connection with the Annual Session of the Missouri State Medical Association. John A. Growdon, M.D., Secretary-Treasurer of the Surgical Society, announces that a social hour and dinner meeting will be held at the Red Door Room of the Union Station in Kansas City on Monday evening, March 28, 1966. Activities will begin at 6:30 p.m.

The distinguished guest for this year's meeting will be Henry P. Leis, Jr., M.D., who is Clinical Professor of Surgery and Chief of Breast Surgery Service at the New York Medical College, New York City. Doctor Leis is also scheduled to appear on the Monday afternoon scientific program of the MSMA Session under sponsorship of the Surgical Society.

Physicians who are not members of the Surgical Society are welcome to attend the dinner meeting provided reservations have been made in advance. Arrangements should be made with John A. Growdon, M.D., 1324 Professional Bldg., 11th & Grand, Kansas City, Mo.

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Benton		
Boone	LeRoy Miller, Columbia	Jack Martt, Columbia
"	Hugh Stephenson, Columbia	John Walters, Columbia
"	William See, Columbia	Robert Jackson, Columbia
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"	John N. Martin, St. Joseph	Richard Riddell, St. Joseph
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"	Gene Leroux, Doniphan	
"	Harold Cline, Piedmont	
Callaway	Henry Durst, Fulton	James Ritterbusch, Fulton
Cape Girardeau	H. B. Rapp, Cape Girardeau	T. A. Lovinggood, Cape Girardeau
"	Edwin Burford, Cape Girardeau	Wendell K. Stewart, Cape Girardeau
Carter-Shannon		
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"	Floyd Barnett, Paris	George Ragsdale, Paris
"	Avery P. Rowlette, Moberly	Phillip Dreyer, Huntsville
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"	Weldon Sportsman, Kansas City	Donald Kuenzi, Kansas City
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Dent	B. J. Bass, Salem	M. M. Hart, Salem
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Christian	Stanley Roper, Ozark	
Taney	James W. Crain, Branson	Virginia Fogerson, Branson
Newton	Melvin Bowman, Neosho	George Blankenship, Neosho
McDonald		
Pemiscot	O. W. Cook, Caruthersville	A. G. Shirey, Hayti
Perry-Ste. Genevieve	S. G. Legner, Perryville	J. F. Fairchild, Perryville
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Pettis	C. G. Stauffacher, Sedalia	T. J. Hopkins, Sedalia
Pike	John K. Day, Bowling Green	Charles H. Lewellen Louisiana
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”		
”		
”		
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”	Miles Whitener, St. Louis	Harold Freiheit, St. Louis
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For the 108th Annual Session

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30	Abbott Laboratories North Chicago, Ill.
47	Aloe Division of Brunswick Corp. St. Louis, Mo.
22	Arnar-Stone Laboratories Mount Prospect, Ill.
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34	Lederle Laboratories Pearl River, N. Y.
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A Key Site of Action of the Protoveratrine A in Salutensin

"The main function of the carotid sinus is regulation of the blood pressure...."[1]

The veratrum component of Salutensin acts here (and in the myocardium), initiating "...a reflex fall in blood pressure through a generalized vasodilation and fall in heart rate."[2]

SCHWENK

County Society News

ST. LOUIS MEDICAL SOCIETY

(Comments of George L. Hawkins, Jr., M.D., at his installation as President of St. Louis Medical Society, January 4, 1966.)

As physicians, we are basically a homogenous group. The majority of us came from middle class backgrounds, have a reasonable degree of intelligence and are endowed with the tenacity to finish the job (or we would not have finished the prolonged period of medical school and postgraduate residence training!). Physicians have a love of people, and I know of no field of endeavor in which one is in a more intimate contact with humanity and inhumanity than in the practice of medicine. Physicians as a group have an excellent sense of humor. If a physician cannot revel in the comical situations that inevitably appear in the intimate interpersonal relationship of the practice of medicine, if you cannot chuckle to yourself or to your confreres after those periods of utter frustration when the heavens seem to have fallen around you, you are destined to a gloomy life in medicine. Physicians are a group with integrity—financial, moral and ethical.

Doctor Hawkins

We are all products of the past, and it has been my observation that a person who is not prideful of his heritage is not worth his salt. Physicians can rightfully be a prideful group. The individual physician still holds a position of most high esteem in society. When one is judged on the intimate doctor-patient relationship, the patient considers his physician as one without peer. As in any group, there is a rotten apple in the barrel, but we should be prideful to be in a profession where one has to go through more than one barrel in search for that rotten apple.

We can be prideful to serve a function essential in all societies. Physical well-being and longevity have been objectives in all societies. The witch doctor in Africa and the medicine man of the American Indian are our counterparts. Just as our scientific civilization has outstripped theirs, even more so has our scientific medicine outstripped the advances of many other segments of our society. The advances of sociology and of government have not kept pace with the advances of our unfettered scientific medicine, advances so far-reaching that we in medicine almost disregard them as commonplace, advances which

(Continued on next page)

ST. LOUIS COUNTY MEDICAL SOCIETY

(Comments of C. Howe Eller, M.D., at his installation as President of the St. Louis County Medical Society, January 12, 1966.)

I would first like to express my appreciation for the confidence you have shown by electing me President of the St. Louis County Medical Society. I am particularly appreciative because as a Health Officer I do not represent the same area of professional service as the overwhelming majority of the membership. While not sure that I am right, I like to think that my election to this office represents the Society's interest and support for public health and in particular, of course, the St. Louis County Health Department. Certainly, this Society has in a variety of ways given real and specific backing to the County Health Department, much more than many other medical societies with which I am familiar.

Doctor Eller

I intend, as President of this Society, to support the desires of the majority. However, in so doing, I cannot stop being a Health Officer and must continue my concern with community health problems. Fortunately, this should not be difficult because, in my opinion, the St. Louis County Medical Society has had more than usual interest in community health and welfare. Evidence of this has been seen in the development of the *Past 65 Program*, the leadership given to the development of the *Oral Polio Program* and the stated willingness of the Society Council to actively work with "medicare" even though most members did, and still do, oppose it. I am particularly proud to have been a member of, insofar as I know, the first local society to come out publicly with a positive statement concerning "medicare."

I was told by our hard working Executive Secretary that any acceptance speech must have one part which "views with alarm." I must say that I have no difficulty as of this date in viewing the next year with alarm—for both the Society and myself. Since "medicare" is now the law of the land, it will be going through its birth pangs during the next year; and, certainly, the pangs will be many, the uncertainties will be numerous and there will be problems which must be solved. Fortunately, some of the problems that will be encountered will not be solved in Washington but will permit local partici-

(Continued on next page)

Doctor Eller (Cont'd)

pation and decision. To the extent that this is true, this then provides us with the opportunity of guiding the developments in the best direction possible. If we are to have a part in these decisions, however, we must have representatives present whenever questions are discussed. Several of the committees of the Society will have important responsibilities in this connection and many of you will be called upon as individuals to attend meetings and participate in the planning. This will frequently call for sacrifice of time and this must be made by some of you or our opportunity to get our point of view presented will disappear. If we have the chance to influence the development of "medicare" and do not show up, then we lose our right to criticize the results.

The problems that will undoubtedly accompany the implementation of "medicare" can best be met if all segments of the medical profession present a uniform front. While there must always be room for difference of opinion, communication, cooperation and coordination will be of the greatest importance. To this end, the County Medical Society—insofar as I can speak for it—offers its closest cooperation to other medical groups of the community: the St. Louis Medical Society, the Mound City Society, the Academy of General Practice and the specialty organizations.

Tremendous changes are undoubtedly in store during the next few years for both the practice of medicine and public health. The changes in private practice will relate primarily to increased third party payment for medical care. In addition, however, physicians will increasingly be expected to include preventive services as one part of comprehensive care. Thus, some of what health agencies have provided will shift to the private sector, especially in connection with chronic disease. I favor this potential shift. It will mean that the practicing physician and health officer will need to work in even greater harmony. Therefore, while I have concern about the problems facing us, I also see the opportunity for developing closer working relationships and in helping to guide the impending developments so that they will hopefully be the best possible for both the citizens of St. Louis County and for members of the medical profession.

Doctor Hawkins (Cont'd)

have altered the life expectancy to such a degree that it has proved a boon to life insurance companies and at the same time created a new medical field called "geriatrics," created a need for nursing homes and created sociological problems in the care of this group of people advanced in age and no longer productively employed which the politicians and the press wish to collar us with as a medical problem.

Further, we should be prideful that medicine in all its branches—administrative, practicing, research and teaching—can only be supplied by physicians. No insurance carrier, hospital or governmental agency has the knowledge, skill or techniques to supply these services. Nor can any law be passed which will give any of these agencies the years of training and dedication necessary to amass the knowledge and skill necessary to purvey this essential service. There is no substitute for quality, and we should be prideful that this is our strength.

Finally, we should be prideful of our independence. Few others can cherish the independence enjoyed by the medical profession, and we all understand that this independence that physicians enjoy is not an arrogant and callous disregard of our obligation to society. On the contrary, this is an independence that physicians exercise with due regard to society, an independence that allows each of us to practice in the locale we consider most suitable for our talents, allows you to practice your specialty and I mine, an independence that has fostered the development of specialization in the practice of medicine so that devotion of the individual's talents to pediatrics, orthopedics or internal medicine, and so forth, can be done where the desire and talents of the physicians and the demand of the market place are compatible, an independence which allows us to stay put and grow roots or to move on as we desire, an independence that allows me to practice my specialty and at the same time express my eternal gratitude to the many who enjoy the fields of medical endeavor that I would find personally distasteful.

This prideful practice of medicine did not just happen. It is the product of past generations, of our parents, our teachers and our teachers' teachers, a product of those who have a bent for research. We owe our gratitude to this past.

Paradoxically, during a time when American medicine is at the pinnacle of success (and perhaps not paradoxically, at a time when financially the practice of medicine is quite rewarding), we in medicine are being threatened with losing, if we are not actually at the present time in the process of losing, this most cherished of all the attributes of the practice of medicine, our independence. Physicians must realize that financial well-being is by no means synonymous with freedom and independence. This brings us to our immediate concern of the present and the problems we will face during the coming year and, I fear, in many years to come. The decisions made now and in the immediate future, and the course of action taken, may well finalize the heritage that we can pass on to future generations of physicians.

Let me enumerate some of the problems that will most certainly face us during the coming year. First, is the eternal problem of participation by the physicians of this society in formulating medical policy. This is called exercising citizenship, and I am sorry to say that the average physician exercises his citizenship in medical affairs essentially the same as the average citizen exercises his citizenship in general political affairs. The word describing this attitude is "apathy." Physicians, if you fail to participate in formulating policy and allow decisions to be made by default, you have lost your birthright. This year, for the first time in eight years, there was only one slate run for offices for the administration of the St. Louis Medical Society. In my years in the St. Louis Medical Society, I have never seen a member on the Council of this Society who did not make a significant contribution, and it behooves this Society to give its membership a horse race and not a horse show at election time each year. It is also required that the membership vote, and vote discriminantly on their candidates, to work on committees, to go to meetings, to write letters of construction or complaint and to stand up and be counted.

Second, we in medicine have a problem which has been with us for years, that of the Armed Services and medical personnel. Most of us saw it when we were in the armed services ten or 20 years ago, fulfilled what we thought was our obligation, got out and attempted to forget about it as soon as possible. Organized medicine realizes that any citizen has an obligation to his country and that adequate medical service is essential to the Armed Services. However, as physicians in organized medicine, we should also realize that the disruption of the resident physician's training for military service should be as accommodating as possible. We are now in the time of stress, but in the two decades since the cessation of World War II, the Armed Services Medical Corps has never been able to make their service so attractive that they could fill their quota with volunteers who wish to make the practice of medicine in the Armed Services their career. Further, if you have lent an ear to those returning to training from the Armed Services, in many instances you will have heard that their talents have not been too judiciously used. I feel it is the obligation of organized medicine not only to see that the necessary physicians for the Armed Services are available, but it is also the obligation of organized medicine to see that its membership is used judiciously and sensibly by the Armed Services.

Third, there is a tremendously complicated problem in our laps. This is the relationship between the physician, the hospital and various insurance agencies (the so-called third party), and whether this insurance agency be the commercial carrier, Blue Cross, Blue Shield or the federal government which by legislative fiat has elevated itself to the role of the medical insurer of all persons over age 65. In dealing with all these varying situations, the same principle is applicable which was put so succinctly by a Mr. William Shakespeare some few centuries past; that is, "to thine own self be true, and" you cannot be false to your patient, the insurance carrier, the hospital or the governmental agency.

Concerning physician-hospital relationships, the interdependence of one upon the other in present day medical practice is obvious to anyone. A well disciplined line must be established as to what constitutes hospital service and what constitutes medical care. I have no doubt that the establishment of this line will not be accomplished without some controversy (and rightfully so) to formulate a well founded plan. Currently, a resolution has been passed by the Missouri State Medical Association and a similar resolution approved by the Council of this Medical Society, which provides that for the future in Missouri arrangements between hospital and individual doctors should provide for a clear distinction between the charges for professional services and charges for institutional services. This provision is necessary under Public Law 89-97. All physicians should read the resolution adopted by the Council of the Missouri State Medical Association, December 12, 1965. Implementation of this will be of value to both the patient and physician. Implementation will take conscientious effort on the part of the radiologist and the pathologist, and this segment of the profession can be assured of the backing of organized medicine in their quest for a solution to this problem. In turn, organized medicine should expect that pathologists and radiologists will establish relationships with the hospitals that truly establish a clear distinction between professional and institutional charges for services. It must be understood that this is not a battle for pathologists or radiologists. This is a problem for all of the practice of medicine to solve.

In line with this same problem, a new term, "utilization board," has arisen. Some hospitals already have such boards functioning. All hospitals qualifying under Public Law 89-97 must have them. Recently an agreement was made between Blue Cross and the hospitals that utilization committees would be set up in all Blue Cross member hospitals. Such committees can serve a useful function to physicians, and as well, they can be used as a whipping boy against the medical profession. Utilization of hospital facilities basically depends upon two factors. One is the presence of or the suspected presence of disease requiring hospitalization, either for acute treatment or diagnostic studies. This is a relatively stable and predictable function. The second factor is an economic one and an environmental one which will make hospital admission and hospital stay attractive to the patient. These are factors which phycians did not create and have no control over. Physicians did not write into Public Law 89-97 that a patient must be admitted to an acute hospital for three days prior to be eligible for admission to a nursing home. Physicians do not write insurance policies that make it economically more desirable to have diagnostic studies done on an inpatient hospital status rather than as an outpatient. Our medical organizations should insist that only practicing physicians are qualified to function on utilization committees. And where the time and efforts of physicians on such committees are requested by an agency *other* than the medical staff to review the hospital admissions or hospital stays of patients, then that agency should be expected to compensate the medical board for their time and judgment in reviewing matters, which only too often will prove to be the result of unsound policies underwritten by third parties.

Fourth, and last, there exists a relationship between the hospital, the attending physician and the physician-in-training, these commonly referred to as "house staff." These fellow physicians who are spending time in postgraduate training for the purpose of increasing their professional competency in some chosen field are not employees in a technical sense of either the attending physician or the hospital. Their relationship should be a reciprocal one of mutual help between attending physician and resident physician and should represent a true preceptorship with all the attending physicians being preceptors. These physicians-in-training have to be paid a living wage for which they are justly deserving for the many essential and skilled services they supply. Certainly a competent house staff adds to the prestige of a hospital; but even more so, such competent physicians-in-training add to the efficiency of the attending staff. The teaching of physicians-in-training is a responsibility of the attending physicians, not of the hospital. The services supplied by the physicians-in-training are essentially medical services and not hospital services. I feel it behooves the medical profession to consider whether their responsibility to the house staff as far as training is concerned does not as well imply a financial responsibility. I think the attending staff should do some timeful thinking as to from what source the compensation for house staff caring for private patients should come.

These are some of the major problems that I foresee in the coming year. I hope that your fine medical council can solve some of them and I hope we can make good decisions, not expedient decisions giving "Peace in Our Time," but decisions which will allow the coming generations of physicians the freedom and independence of action and thought and conduct which has made American Medicine great.

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H. RICHARD McFARLAND, M.D., *Kansas City*

Current Management of Cerebrovascular Accidents

"Stroke is defined as an abruptly developing neurological catastrophe which is secondary to a vascular accident involving one or more of the vessels supplying the brain. The term "vascular accident" is here taken to include rupture of an aneurysm, hemorrhage, thrombosis, embolism or other occlusive or obstructive phenomena resulting in ischemic changes in the central nervous system.[1]

Three classes or groups of stroke can be delineated: (1) Transient ischemic attacks in which the neurological deficit is temporary with recovery occurring a few minutes to a few hours after onset; (2) Progressing strokes or a stroke "in evolution"; (3) Completed strokes in which the neurological deficit is stable or no longer progressing. It should be recognized that a stroke in either of the first two groups may progress to a completed stroke at any time and what appears to be a completed stroke may show further progression.

Facts

As a cause of death only heart disease and cancer rank above cerebrovascular disorders which cause approximately 11% of the national mortality. There are between 1½ and 2-million people in the United States who are hemiplegic as the result of a cerebrovascular accident (CVA). Nevertheless, there has been a 22% drop in the death rate from strokes in the 45 to 64-year age bracket since 1950 and a similar but smaller drop in the 65 to 74-year age bracket.[2] It is hoped that this improvement reflects advancement in knowledge and management of medical conditions.

Negroes have nearly twice the death rate per 100,000 from cerebrovascular disease as whites until about the age of 80 when a sharp reversal occurs. The much higher per cent of negroes with hypertension is given as an explanation for this statistic. In both the white and negro races, males have a significantly higher death rate from CVA until about the age of 80 when this reverses.[1]

About 21% of stroke victims die soon after their first vascular accident and 50% of the survivors die within four years, usually of another stroke.[3]

Etiology

Most CVAs are caused by atherosclerotic thrombosis of extracerebral or intracerebral vessels. About 20% occur as the result of intracerebral hemorrhage and a lesser per cent from subarachnoid hemorrhage and cerebral embolism. Other conditions which may contribute to or result in cerebral infarction are:

1. Systemic hypotension as may occur during anesthesia, heavy sedation, overdosage of certain hypotensive (especially ganglionic blocking) agents, shock, cardiac arrest and ventricular fibrillation.

2. Carotid and vertebral angiography.
3. Trauma to the carotid arteries from noniatrogenic sources.
4. Radioactive or X-ray emanation on blood vessels.
5. Hematological disorders including polycythemia, sickle-cell diseases and thrombotic thrombocytopenia.
6. Dissecting aortic aneurysm.
7. Anoxia as in carbon monoxide asphyxia or choking.
8. Cerebral venous thrombosis.
9. Cerebral arteritis.

Certain factors have been indicated as predisposing to atherosclerotic changes. These include improper diet, inadequate activity, excessive cigarette smoking and other diseases and conditions such as diabetes, obesity, hypertension, hypercholesterolemia and hyperlipemia, certain hormone disturbances and gout. It should be noted that most of these conditions are treatable.

Hypertension is particularly stressful on weakened vessels and is associated with degenerative vascular changes. Hypertension is treatable and in some instances, as coarctation of the aorta, unilateral kidney disease, unilateral or bilateral renal artery obstruction, pheochromocytoma, Cushing's syndrome and primary aldosteronism, may be cured.

Often conditions which predispose to embolism can be treated. These include rheumatic heart disease, myocardial infarction, bacterial endocarditis, auricular fibrillation and other cardiac arrhythmias. Air and fat emboli may occur under circumstances that can be anticipated and avoided.

Dr. Meyer[4] analyzed the associated diseases of 755 patients who had suffered a stroke. He found: hypertension in 76% of the cases; arteriosclerotic heart disease in 52%; hypercholesterolemia in 45%; hypothyroidism is 38%; gout or hyperuricemia, 33%; diabetes mellitus, 31%; postural hypotension, 16%; anemia, 13%; myocardial infarctions 10%; rheumatic heart disease, 5%; syphilis, 5%; and polycythemia in 1%. It will be noted that many of these associated diseases are thought to be predisposing factors to atherosclerotic changes and can be treated.

Management of Transient Ischemic Attacks

The importance of attempting to identify the "stroke-prone" individual is illustrated by the fact that 20% of transient attack syndromes terminate in clinical cerebral infarction and that at least 40% of the progressive or completed strokes are preceded by a warning of transient ischemic attacks. The following may be warning symptoms of an impending stroke:

1. Unilateral temporal or suboccipital headache, intermittent and recurrent if untreated.
2. Light-headedness.
3. Vertigo (rotating of the room or patient).
4. Syncope, over age 30.
5. Drop attacks (falls limp to knees or ground, no loss of consciousness).
6. Blurring of vision of both eyes.
7. Transient monocular blindness.
8. Transient paresthesias (unilateral or bilateral).
9. Transient ataxia.
10. Transient dysphasia.
11. Transient disorientation.
12. Serious impairment of memory.
13. Convulsions, over age 30.
14. Behavioral changes.
15. Transient cranial nerve palsies.

Light-headedness, syncope and drop attacks are common in people suffering from hypotension. Rotational vertigo, transient ataxia, cranial nerve palsies and blurring of vision of both eyes are symptoms suggesting vertebral-basilar artery insufficiency; whereas transient monocular blindness, dysphasia, impairment of memory, behavioral changes and convulsions, particularly focal types, suggest the carotid artery or one of its branches is impaired. Unilateral paresis or paresthesia is typical of carotid disease, whereas shifting signs or quadriparesis is indicative of vertebral-basilar disease.

The diagnosis should include a thorough history, medical and neurological examination, as well as laboratory tests best accomplished while in the hospital. These tests include X-rays of the skull, cervical spine and chest, electroencephalogram (EEG) with hyperventilation and judicious carotid artery compression, ophthalmodynamometry for retinal artery pressure, lumbar puncture for cerebral spinal fluid analysis, complete blood count with sedimentation rate, urinalysis, 2-hour postprandial blood sugar, blood urea nitrogen, cholesterol, electrocardiogram (EKG) and a blood culture if there is any indication of an infection, particularly of an endocarditis. It is sometimes unclear why such a barrage of testing is indicated, therefore a few examples are listed.

Skull X-rays may show calcification within vessels, a shift of midline structures suggesting an intracranial mass or bony changes of the skull and particularly the apertures through which the nervous system travels. Cervical spine X-rays may demonstrate bony malformation, neoplastic or arthritic changes which compress the carotid or vertebral arteries or the spinal cord.[5] Chest X-rays often give indications of cardiac or lung disease, particularly bronchogenic carcinoma which is prone to metastasize to the central nervous system.

The electroencephalogram may demonstrate the area, degree and sometimes the type of brain involvement. It is particularly useful in following the course of a patient, i.e., continual worsening suggests an expanding lesion, improvement suggests a benign lesion such as an ischemic infarct. Digital carotid compression should be done cautiously, with EKG monitoring. If asystole or unilateral slowing occurs in the EEG, the vessel should be released promptly. With these precautions serious complications, which have occurred, usually can be prevented.[6] Ophthalmodynamometry may show a lowering of 30 mm. or more in one retinal artery suggesting partial or complete occlusion of the carotid system at or below the branching of the ophthalmic artery.[7, 8] The electrocardiogram has been found to show a recent myocardial infarction in 10% of patients suffering cerebrovascular accidents and some form of abnormality in 50%.[4] The lumbar puncture may suggest increased intracranial pressure as the result of hemorrhage or neoplasm; may show clear fluid, or fluid containing blood or its residue suggesting the lesion was hemorrhagic. This information may be vital in the management of the patient. Furthermore, markedly elevated proteins are common for neoplasms and uncommon for infarctions. A positive serology may suggest central nervous system syphilis. The blood count may indicate polycythemia, anemia or suggest an infection is present, as does the elevation of a sedimentation rate. The urinalysis may indicate renal disease which is influencing the patient's course, as may the blood urea nitrogen. Hypercholesterolemia is treatable and should be detected, as is a bacterial endocarditis which may be the source of embolism.

Blood pressures are taken both standing and supine, since discrepancies may relate to occlusive disease of the proximal extracranial segments of large vessels to the head. Auscultation and palpation of blood flow from the chest to vessels of the neck and head are done with the head turned in various positions to help elicit murmurs or bruits. Bruits over the age of 40 years are correlated with stenosis or tortuosity of neck vessels but must be interpreted with caution in younger age groups. Both orbits are auscultated for bruits which may indicate arteriovenous malformations.

Cerebrovascular disorders rank third in causes of death in the United States, and about 2-million Americans have been crippled by strokes. The author points out that the cerebrovascular accident (CVA) frequently is preceded by certain diseases, conditions or warning signs which can be recognized and treated, thus preventing or reducing the possibility of the "accident." Current management of transient ischemic attacks and strokes is also discussed. Doctor McFarland is an Instructor of Neurology at Kansas City General Hospital and Medical Center and at the University of Kansas Medical Center; Consultant in Neurology at the VA Hospital; and on the staffs at St. Luke's and Research Hospitals. Work on this paper was made possible in part by a grant from the Kansas City, Missouri, Heart Association.

Finally, four vessel angiography of the neck and head is considered. Common contraindications to angiography are:

1. The elderly (persons who appear physiologically older than 70 years).
2. Hypertension (at rest, a systolic of more than 180 and a diastolic of more than 100).
3. A moribund patient.
4. A completed stroke between the second and seventh day or a stroke in progression.

Angiography may be undertaken when these contraindications are not present and if surgery is contemplated, if the diagnosis remains unclear and if the condition is static or advancing very slowly (a high incidence of intracerebral hemorrhage and/or space occupying lesions are found in this group). The patient should be willing to undertake the procedure since complications do occur. The total neurological complication rate is approximately 7% including a death rate of 0.5%, and persistent hemiparesis in 1%.[9, 10] Following the criteria here advanced, one can expect to find extracranial vascular lesions in 25% of those studied which are amenable to surgical intervention.[1] The ideal surgical patient is one with:

1. Internal carotid artery insufficiency symptoms and no signs.
2. Decrease in retinal artery pressure on appropriate side.
3. A bruit only over the internal carotid artery.
4. A young individual without other diseases.

5. A stenosis of the involved vessel but not occlusion.
6. Otherwise normal neck and head vessels.

Providing a skilled surgeon and competent facilities are available, this patient represents the best possible surgical candidate, i.e., for a bypass graft or endarterectomy of the diseased vessel. In the National Institutes of Health Series, excellent results without complication from either arteriography or operation have been recorded for 75% of patients so treated.[1] It should be remembered that long-term follow-up has not been obtained, but there are indications from Dr. DeBakey's series that these patients do better than a comparable control group.[11] Nonetheless, there are those with considerable experience who feel that the data have not borne out the efficacy or reliability of this type of surgical intervention.

Dr. Baker[12] believes that in this group of transient ischemic attacks anticoagulant therapy is indicated because of the evidence that it prevents formation of microthrombi. The same contraindications as for arteriography apply with the addition of excluding from the program those who are unreliable or not available for adequate follow-up and those with bleeding tendencies or ulcers. Bishydroxycoumarin and warfarin are the most frequently used anticogulants. Again, it is important to remember that anticoagulation for any cerebrovascular disease still has not been conclusively established as a treatment of choice nor has it been universally accepted.[13, 14] The procedure is time consuming, costly and dangerous particularly with regard to the ever present possibility of intra- or extracerebral hemorrhage.[15–17]

The fibrinolytic and vasodilator drugs are generally not accepted as beneficial for any stroke-prone patient. Nevertheless, nicotinic acid or its buffered forms are widely used and have been shown in high enough doses to lower cholesterol levels and increase blood flow.[18] For this reason, these preparations are theoretically beneficial in selected individuals. Much literature supports the opinion that carbon dioxide has vasodilatory properties for neck and head vessels and increases cerebral blood flow.[19] The use of 5% carbon dioxide for five minutes every hour frequently has been beneficial for the hospitalized patient having cerebral insufficiency attacks.

All authorities agree that careful attention should be directed toward the general medical management of the patient and the exclusion or treatment of any of the diseases listed as predisposing or associated with CVA. Emphasis is placed on obtaining an ideal weight utilizing a low animal fat diet, sufficient exercise and rest, avoidance of stress and treatment of hyper or hypotension. Common abuses are the over zealous lowering of hypertension so that the patient does not receive adequate blood flow for proper cerebral nutrition and consequently may show insidious cerebral degeneration or actually have a vascular accident. The relationship of hypotension to insufficiency syndromes and strokes is inadequately appreciated. Orthostatic and visceral evoked hypotension are exceedingly prevalent in our older population. They can be avoided by requesting the patient to rise slowly in the mornings and change levels of his head gradually, not hyperextend his neck for any period of time and urinate in the sitting position (distention of bladder and bowel causes increased blood pressure and, conversely, the rapid emptying of these viscera causes a lowering of blood pressure). Hypotension may be further treated by support hose, abdominal binders and, if severe enough, may require vasopressor medication or glucosteroids.

Management of an Evolving or Completed Stroke

Ideally, these represent medical emergencies and should be treated in an intensive care unit at least for the first two or three days. Immediate measures are the attainment of a history and medical-neurological examination, the drawing of blood for pertinent tests and, providing there is no contraindication, a lumbar puncture. In most cases this will distinguish between a hemorrhagic or ischemic infarction. Assuming that it is a non-hemorrhagic stroke, an indwelling catheter is placed in a vein with 5% dextrose in water to maintain its patency. The heart rate and blood pressure are carefully monitored. Chronic atrial fibrillation should not be converted whereas most other irregularities are treated with digitalis or other suitable preparations. The patient receives 1,500 to 2,500 cc. of fluid daily and should maintain an output of at least 30 cc. of urine per hour. The blood pressure may now be kept at appropriate levels by the use of intravenous medications such as reserpine or mephentermine. It should be remembered that cerebral infarcts may cause a transient rise in blood pressure which if lowered with medications acting for several hours may suddenly cause hypotensive collapse. Furthermore, a patient who normally carries a blood pressure of 180/100 usually should not be reduced to a blood pressure of 120/70 (since his narrowed vessels may require an elevated pressure to deliver adequate nutrition to tissues).

If the patient is deteriorating rapidly, a choice must be made whether or not to heparinize the patient. If this is decided positively, ten thousand units of intravenous heparin are given immediately and repeated every eight hours subcutaneously so as to maintain a Lee-White clotting time of between 20 and 30 minutes. An electrocardiogram is obtained after the emergency measures are concluded. Ophthalmodynamometry and X-rays need not be done as emergency procedures.

From the very beginning the patient must be turned at least every two hours. He receives suctioning when needed and a tracheostomy if his respiration becomes impaired. Should the patient not be able to take oral fluids within the first 48 hours, tube feedings are instigated. The bladder is not irritated with a Foley cathteter, but rather, careful catheterizations every eight hours are carried out until it is determined whether or not the patient can void voluntarily. If it is necessary to insert a Foley catheter, twice daily irrigations with one-fourth per cent acetic acid are administered and infections are treated with sulfa drugs or other appropriate preparations. Cleanliness and attention to bowel is imperative. Stool softeners and/or colon stimulants such as dioctyl sodium sulfosuccinate (Colace) and bisacodyl (Dulcolax) may be helpful in preventing constipation and impaction. Enemas often are necessary.

This is not the time to perform angiography. A progressing stroke may be made worse by this procedure and a completed stroke should be allowed to improve his strength before the procedure is performed. Evidence now indicates that pale infarcts may become hemorrhagic infarcts if blood is restored to the damaged area within the first week following a CVA. This is why the majority of patients operated within the first 24 to 48 hours with removal of a "fresh" thrombus subsequently died of intracerebral hemorrhage. An explanation is that the vessels in the infarcted area become friable and when blood is restored to them they leak or rupture.[20] Accordingly, anticoagulation of a recently completed stroke is contraindicated.

If the patient has a hemorrhagic vascular accident, neurosurgical consultation should be obtained. These patients are managed as in the case of the non-hemorrhagic stroke, but certain more "heroic" measures may be indicated such as a craniotomy or the use of hypothermia (there is little evidence that hypothermia is efficacious for stroke patients). Approximately 30% of patients with hemorrhagic infarcts will live whether or not they receive surgery. Some of them make astounding recoveries, so although the prognosis is poor, care and endeavor should not be diminished.

As soon as the patient is over the initial shock and has stabilized or begun to improve, rehabilitation measures are intensified. The most important of all of these being early mobilization of the patient.

SUMMARY

Cerebrovascular disorders rank third in causes of death in the United States, and approximately two million people have been crippled by strokes. Many of the predisposing diseases and conditions are treatable. Strokes frequently give warning symptoms which when recognized can be treated and prevented. The current management of transient ischemic attacks and evolving or completed stroke is discussed.

BIBLIOGRAPHY

1. Abstract of Proceedings, Stroke Conference. Chicago, Illinois, February 14-16, 1963.
2. National Vital Statistics Division, U. S. Public Health Service, Bureau of Census, U. S. Department of Commerce, 1960.
3. Robinson, R. A., *et al.:* Life Table Analysis of Survival After Cerebral Thrombosis—10 Years' Experience. J.A.M.A. 169: 1149, 1959.
4. Meyer, J. A.: Acute Stroke. Minnesota Med. 47:265, 1964.
5. Toole, J. F. and Tucker, S. H.: Influence of Head Position upon Cerebral Circulation. Arch. Neurol. 2:616, 1960.
6. Nelson, D. A. and Mahru, M. M.: Death Following Digital Carotid Artery Occlusion. Arch. Neurol. 8:640, 1963.
7. Croll, M., *et al.:* Evaluation of Ophthalmodynamometric and Angiographic Findings in Internal Carotid Artery Thrombosis. J. of Neurosurg. 17:394, 1960.
8. Groch, S. N., Hurwitz, L. J., Wright, I. S. and McDowell, F.: Bedside Diagnosis of Carotid Artery Occlusive Disease. New Eng. J. Med. 262:705, 1960.
9. Scheinberg, P. and Zunker, E.: Complications in Direct Percutaneous Carotid Arteriography. Arch. Neurol. 8:676, 1963.
10. Patterson, *et al.:* Complications of Carotid Arteriography. Arch. Neurol. 10:513, 1964.
11. DeBakey, M. E., Crawford, E. S. and Fields, W. S.: Surgical Treatment of Lesions Producing Arterial Insufficiency of Internal Carotid, Common Carotid, Vertebral, Innominate and Subclavian Arteries. Ann. Int. Med. 51:436, 1959.
12. Baker, R. N.: Prevention of Strokes. Presentation at the National Stroke Congress, Oct. 29-31, 1964, Chicago, Illinois.
13. Hill, A. B., Marshall, J. and Shaw, D. A.: Cerebrovascular Disease: Trial of Long Term Anticoagulant Therapy. Brit. Med. J. 5311:1003, 1962.
14. Fisher, C. M.: Anticoagulant Therapy in Cerebral Thrombosis and Embolism: A National Cooperative Study, Interim Report. Neurology 11:119, 1961.
15. Dooley, D. M. and Perlmutter, I.: Intracranial Hematomas from Anticoagulation Therapy. J.A.M.A. 187:396, 1964.
16. Wiener, L. M. and Nathanson, M.: The Relationship of Subdural Hematoma to Anticoagulant Therapy. Arch. Neurol. 6:282, 1962.
17. Baker, R. N., *et al.:* Anticoagulant Therapy in Cerebral Infarction. Neurology 12:823, 1962.
18. Christensen, N. A., *et al.:* Nicotinic Acid Treatment of Hypercholesteremia. J.A.M.A. 177:546, 1961.
19. Hegedus, S. A. and Shackelford, R. T.: The Effect of Carbon Dioxide on Obstructed Cerebral Blood Flow. V. A. Hospital, Perry Point, Maryland, 1964.
20. Wylie, E. J.: Surgery for Strokes. Presentation at the National Stroke Congress, October 29-31, 1964, Chicago, Illinois.

MICHAEL BERNREITER, M.D.,* ***Kansas City***

Report of a Case Illustrating . . .

The Usefulness of Esophageal Leads in the Diagnosis of Difficult Cardiac Arrhythmias

THE PATIENT, a 60-year-old man, awakened in the night with a rapid, pounding heart and considerable substernal discomfort. He was brought to the Emergency Room of St. Mary's Hospital where a stat EKG was taken (Fig. 1). The electrocardiogram was interpreted as most likely showing a pattern of paroxysmal ventricular tachycardia. The possibility of a supraventricular paroxysmal tachycardia with right bundle branch block could not be definitely excluded. An esophageal lead was then taken (Fig. 2) which showed the P waves (★) at a fixed rate of 88 per minute and the ventricular complexes (•) occurring at a rate of 176 per minute, exactly double the auricular rate. It appears that the ventricles are driven by the AV node and there is a 2:1 retrograde conduction into the auricles. The history revealed that the patient was fully digitalized. The wide QRS complexes again indicate a bundle branch block. Digitalis was discontinued. A sinus mechanism appeared two days later and a right bundle branch block was again apparent (Fig. 3).

SUMMARY

A case is represented with a somewhat unusual and difficult arrhythmia. A routine electrocardiogram was interpreted as a possible ventricular tachycardia. Esophageal leads gave conclusive evidence of a nodal tachycardia with a ventricular rate of 176 and a 2:1 retrograde conduction into the auricle. The ventricular complexes showed the bundle branch block. Over-

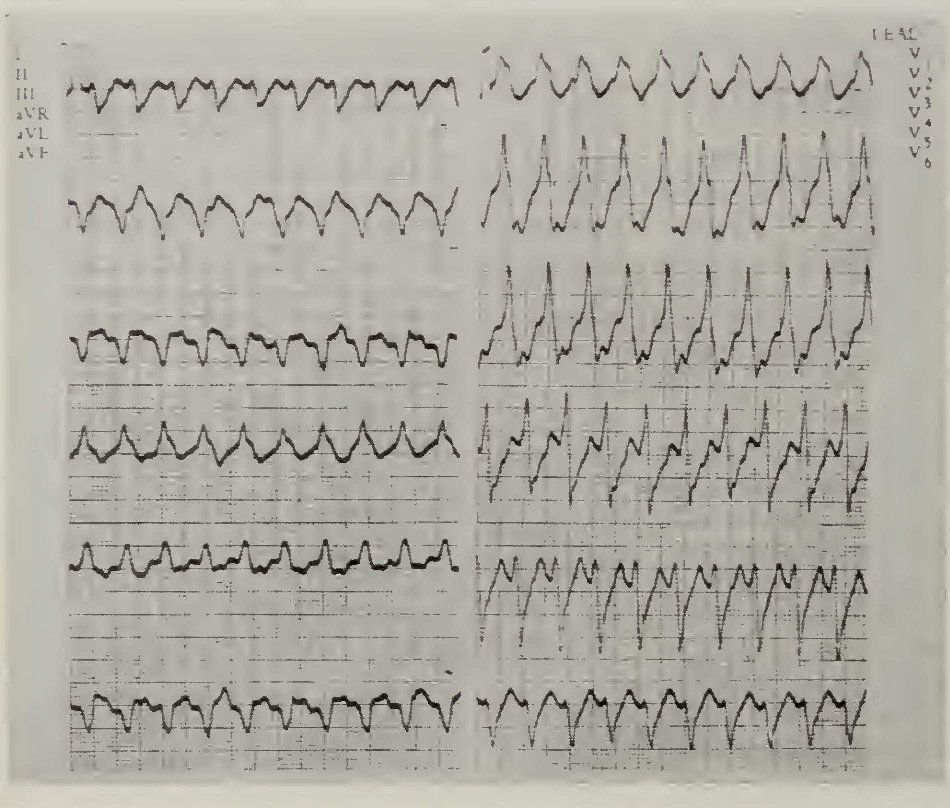

Fig. 1 Electrocardiogram taken on admission to the hospital. The patient was fully digitalized at that time and the electrocardiogram was interpreted as showing most likely the pattern of ventricular tachycardia. The possibility of a supraventricular paroxysmal tachycardia with right bundle branch block was also considered.

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* Doctor Bernreiter is from the Department of Electrocardiography, St. Mary's Hospital, and is an Associate Clinical Professor of Medicine at the University of Missouri.

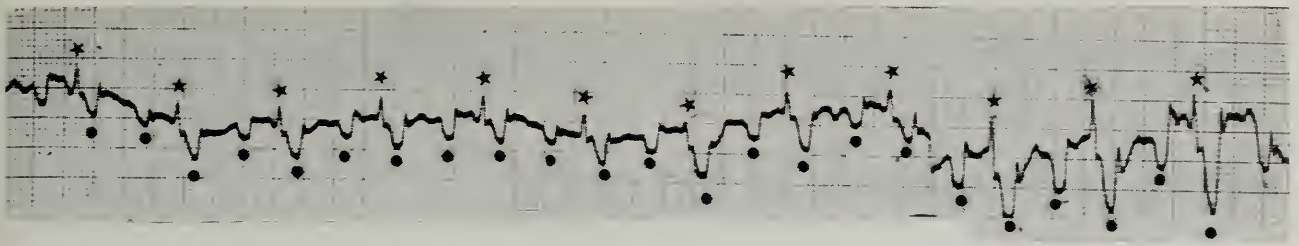


Fig. 2 Esophageal lead. The P waves (★) occur at a fixed rate of 88 per minute and the ventricular rate is 176 per minute, exactly double the auricular rate. The QRS complexes (●) again show a bundle branch block. The findings here definitely exclude the possibility of ventricular tachycardia.

digitalization frequently produces a nodal tachycardia. After digitalis was discontinued a regular sinus mechanism was established and the right bundle branch block was still present. It is important to realize that digitalis may produce dangerous cardiac arrhythmias and severe tachycardias. If, in this case, digitalis had been increased, the danger of ventricular fibrillation and death would have been quite real. The fact that a sinus mechanism was established after digitalis was discontinued gives additional evidence of digitalis intoxication.

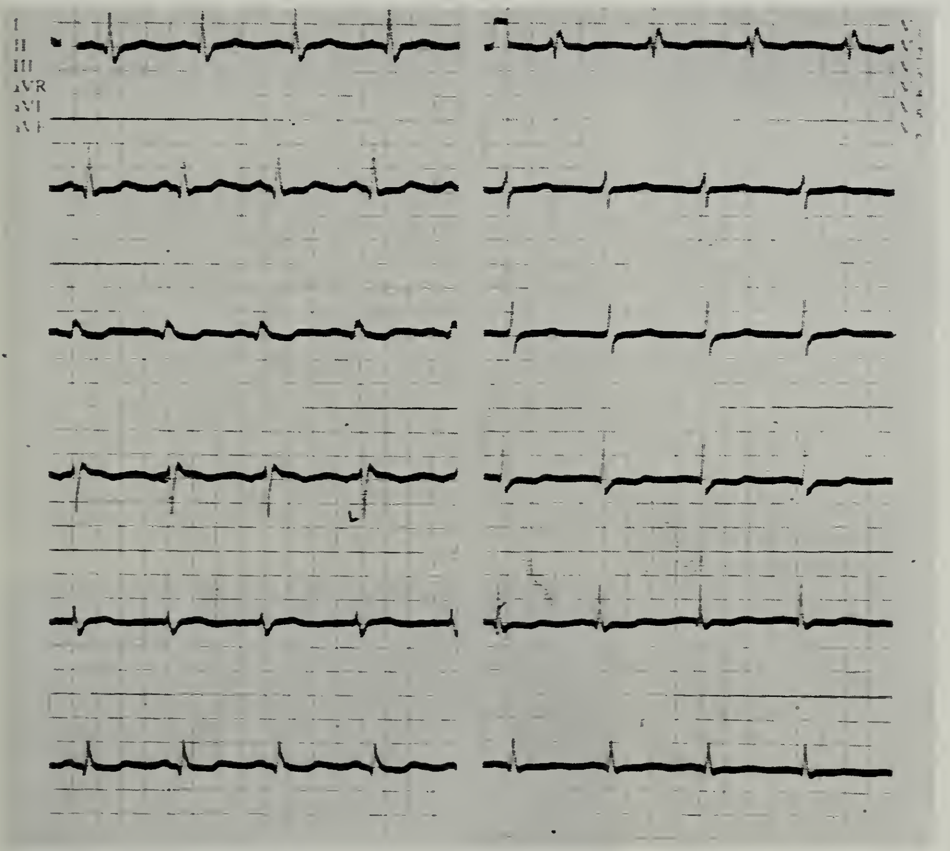


Fig. 3 Digitalis was discontinued. A regular sinus mechanism was established and a right bundle branch block pattern is still present.

Parke, Davis & Company has announced a new, unique development in the sterile packaging of surgical dressings. The new development is a sterile package called a "Sponge Control" Envelope. The envelope features a tamperproof seal to assure sterility by combining the advantages of latex and heat seal. Once opened it cannot be resealed. Each package opens easily, making two sponges immediately available. The sponges automatically separate as you peel back the envelope, yet each is held in a sterile field for separate handling.

MELVIN E. MEYER, M.D. *and*
BUSHARAT AHMAD, M.D., *St. Louis*

Temporal (Cranial) Arteritis

Case Reports

TEMPORAL ARTERITIS OR, more correctly, cranial or giant cell arteritis is seldom seen in the average practice. For this reason it is infrequently considered in differential diagnosis, especially in headache. The patient rarely volunteers the necessary historical information, and the systemic symptoms may be misleading. Thus, the disease often progresses undiagnosed for weeks, being treated only nonspecifically or symptomatically.

Early treatment with the adrenal cortiscosteroids can, in a significant number of cases, arrest the disease before pathologic changes progress to the extent which result in serious, irreversible consequences.[1] Of nonspecifically treated cases, more than 50% develop some degree of visual impairment, varying from minimal ocular muscle palsies to complete blindness.[2] Approximately 15% of all nonspecifically treated cases result in complete, bilateral blindness.[3] The importance of early treatment is quite evident.

REPORT OF CASES

Case # 1. A 72-year-old male was admitted to St. Louis University Hospital (Firmin Desloge) with a history of malaise, weight loss of ten pounds, headache and persistent sharp pain in both temporal regions, all of which had begun about four weeks prior to admission. These symptoms had gradually increased in intensity, and the pain became noticeable in his cheeks and jaws when chewing. He had also noticed sharp pain in his scalp when he combed his hair. Five days prior to admission he suddenly lost the vision of his left eye. Two days before admission he suddenly lost the vision of his remaining eye. At no time had there been any pain in the eyes. He had seen an internist about two weeks previously for the general constitutional symptoms.

Physical examination on admission revealed that he had no light perception in either eye; both pupils were dilated and fixed; both optic discs were ischemic, slightly elevated and pale; the retinal vessels were wire-like and in some areas showed segmentation of the blood column; there was tenderness in both temporal regions. The remainder of the examination was normal for his age. CBC, urinalysis and serology were normal. The erythrocyte sedimentation rate was 45 mm. per hour. Further medical workup, including upper and lower G.I. X-rays, failed to reveal the etiology of the symptoms.

High doses of corticosteroids were started on the day of admission. A biopsy was taken from the right temporal artery on the third day after admission (Fig. 1). It was reported as "nonspecific inflammation and atherosclerosis." No giant cells were seen.

Case # 2. A 75-year-old female, who was being seen and followed for incipient cataracts, presented herself to an ophthalmologist with a history of sudden loss of vision of the left eye three days before. Examination at that time revealed no light perception in the left eye; the pupil reacted consensually but not directly to light; the left optic disc appeared slightly elevated and pale with two small hemorrhages at the disc margin. The right eye had early opacification of the lens but was otherwise normal. It was believed that the findings were compatible with occlusion of the central retinal artery. The patient was referred to an internist who was able to contribute nothing further toward the diagnosis. Two days later the patient again saw the ophthalmologist, having lost the vision of her re-

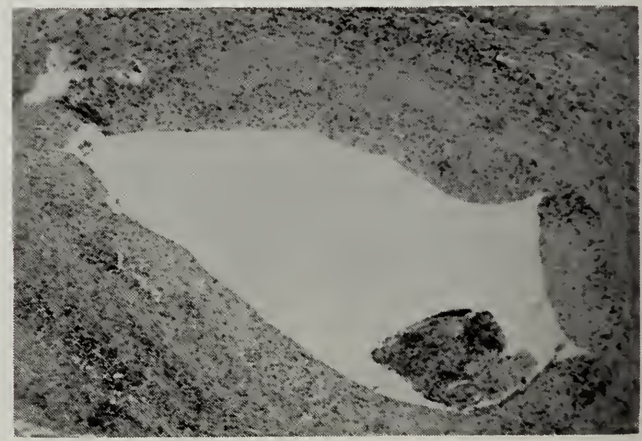


Fig. 1 Section of right temporal artery from Case # 1, biopsied on the third day after corticosteroids were started, showing moderate inflammation but no giant cells. Clear central area is the lumen. Hematoxylin & eosin ×40.

maining eye the previous day. Examination of the right eye revealed findings similar to those of the left eye. She was admitted to St. Louis University Hospital for evaluation.

The above history was volunteered by the patient. However, on carefully directed questioning she revealed that she had had a headache of increasing severity for the previous six weeks. She had had pain in the temporal regions which, on occasion, radiated into the cheeks when chewing. She had not felt well, generally, for the past month and had lost her appetite during the past two weeks.

Physical examination revealed that she had light perception only in the right eye and no light perception in the left eye; the pupils were dilated and fixed; both lenses had early opacification; both optic discs were elevated one to two diopters and had indistinct borders; the arterial/venous ratio was one to four; there were some small hemorrhages near the border of the left optic disc. The temporal vessels on both sides were easily palpable, very firm and cord-like but were not tender. The ramainder of the physical findings were normal for her age. CBC, urinalysis and serology were normal. The erythrocyte sedimentation rate was 55 mm. per hour.

Corticosteroids were started on the day of admission. On the next day vision of the right eye was completely gone. The left temporal artery was biopsied on the day after admission. Consultation with a neurologist failed to reveal further significant findings. Complete medical evaluation was undertaken but failed to contribute anything further of significance. The temporal artery biopsy was reported as, "temporal arteritis, histologically classical in type" (Fig. 2). On discharge, one week after admission, the patient felt much better but still had not regained any vision.

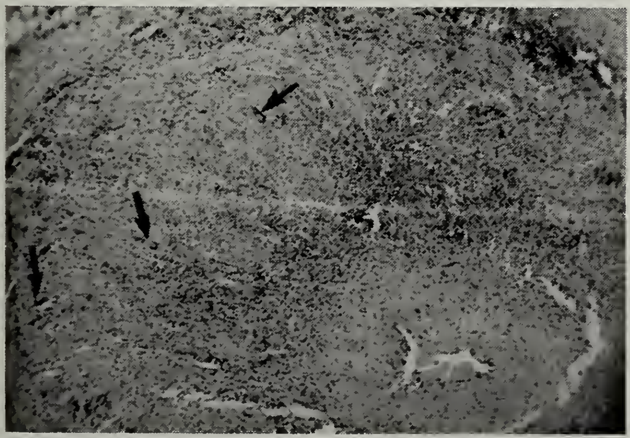


Fig. 2 Section of left temporal artery from Case # 2, biopsied on the day after corticosteroids were started, showing marked inflammatory response with giant cells (arrows). Nearly obliterated lumen is lower right corner. Hematoxylin & eosin ×40.

Presentation of two cases of temporal arteritis, a disease which is seldom seen in average practice. The authors review classical symptoms and findings, noting that headache is often the first concrete symptom to appear. They also emphasize the importance of early diagnosis and treatment in order to prevent irreversible ocular change. Doctors Meyer and Ahmad are Senior Assistant Residents in Ophthalmology at the St. Louis University Hospitals.

COMMENT

The above two cases, together, present a classical picture of cranial arteritis. The incidence of cranial arteritis is equal in both sexes. According to Leishman,[4] the average age of the patient is about 70 years. Simmons and Cogan[3] report a range of from 54 to 84 years. The disease begins with generalized symptoms, slight fever, malaise, weight loss, anorexia and headache which usually increases in severity. Pain in the temporal regions is often noted and is frequently increased by chewing or combing the hair. The temporal vessels are often tender and palpable with erythema of the overlying skin. Hearing loss, tinnitus and vertigo are sometimes seen. Wagener and Hollenhorst[2] report that ocular findings are present in more than 50% of cases. These usually develop from one to four weeks after the onset of the disease. Ocular muscle palsies are sometimes seen, especially of the lateral rectus muscles. The most serious consequence, occurring in 60% of the cases which have ocular findings, is partial or complete permanent loss of vision. Of those cases which have some loss of vision, 50% suffer bilateral complete blindness. Thus, approximately 15% of all cases result in total bilateral blindness. The blindness is usually sudden in onset and presents the appearance of ischemic optic neuritis or retinal artery occlusion. When the second eye becomes involved it usually does so from one to 21 days after the first eye.

Simmons and Cogan[2] report that in approximately 15% of cases classic signs and symptoms are lacking. The patient presents a picture of quiet ischemic blindness, the systemic signs and symptoms appearing only after the onset of ocular symptoms.

The diagnosis is suggested by a complete carefully obtained history and the physical find-

(Continued on page 205)

JOHN S. SPRATT, JR., M.D. ***and***
MIRIAM G. HOAG, ***Columbia***

Mortal Diseases Among 1000 Ellis Fischel State Cancer Hospital Patients

With Comparison to the General Population

In evaluating the lethality of a particular human disease, such as cancer, accurate vital statistics on all the causes and the rate of dying must be available. The history of vital statistics is an old one. Beginning about 1592 the parish clerks of London began to record the births and the number and causes of deaths, and the first of the continued weekly "Bills of Mortality" was printed on December 29, 1603. In 1662 John Graunt, a London tradesman, reviewed these bills and published a unique little book[1] which laid the foundation for modern vital statistics. His simple summary defining the purpose of vital statistics merits quotation:

> "It may be now asked, to what purpose tends all this laborious buzzling, and groping? To know,
>
> 1. The number of the People?
> 2. How many *Males,* and Females?
> 3. How many Married, and single?
> 4. How many *Teeming* Women?
> 5. How many of every Septenary, or Decad of years in age?
> 6. How many *Fighting* Men?
> 7. How much *London* is, and by what steps it hath increased?
> 8. In what time the housing is replenished after a *Plague?*
> 9. What proportion die of each general and perticular *Casualties?*
> 10. What years are Fruitfull, and Mortal, and in what Spaces, and Intervals, they follow each other?
> 11. In what proportion Men neglect the Orders of the *Church,* and *Sects* have increased?
> 12. The disproportion of Parishes?
> 13. Why the *Burials* in London exceed the Christnings, when the contrary is visible in the Country?
>
> To this I might answer in general by saying, that those, who cannot apprehend the reason of these Enquiries, are unfit to trouble themselves to ask them. . . .
>
> Moreover, if all these things were clearly, and truly known (which I have but guessed at) it would appear, how small a part of the People work upon necessary Labours, and Callings, *viz.* how many Women, and Children do just nothing, onely learning to spend what others get? how many are meer Voluptuaries, and as it were meer Gamesters by Trade? how many live by puzling poor people with unintelligible Notions in Divinity, and Philosophie? how many by perswading credulous, delicate, and Litigious Persons, that their Bodies, or Estates are out of Tune, and in danger? how many by fighting as Souldiers? how many by Ministeries of Vice and Sin? how many by Trades of meer Pleasure, or Ornaments? and how many in a way of lazie attendance, &c. upon others? And on the other side, how few are employed in raising, and working necessary food, and covering? and of the speculative men, how few do truly studie *Nature,* and *Things?* The more ingenious not advancing much further then to write, and speak wittily about these matters."

A review of the age-specific death rates among Missourians, utilizing census figures and a control population of 1,000 patients who were seen at the State Cancer Hospital. The authors note the changing patterns in the causes of death and point out that among adult Missourians cardiovascular disease and cancer now account for two-thirds of all deaths. Doctor Spratt is Chief of Staff at Ellis Fischel State Cancer Hospital and Director of the Cancer Research Center; Miss Hoag is Director of the Social Service Department, EFSCH. Research on their paper was supported in part by USPHS Grant CA 08023-01.

Succeeding Graunt in the evolution of thought on vital statistics came Halley. Halley had access to the records of births and deaths from the city of Breslau dating from 1687. From these, he established the principles of actuarial analysis and prepared the first life insurance tables.[2] The certain profit of the modern life insurance companies depends on Halley's methods.

Graunt in his brief summary outlined the purposes of statistics in defining the vitality of a society—the birth, living and dying of its people and its essential productive and non-productive constituents.

What progress has indeed been made in the three centuries since Graunt and Halley began recording vital statistics and what guidance can current vital statistics give toward the continued improvement in the management of mortal diseases occurring presently in Missouri? There is a tendency to lose sight of the relative significance of various diseases. Problems change with time and must be re-evaluated at intervals. For example, syphilis, largely extinct several years back, is becoming a very frequent disease among school-age youth.

The purposes of this study are: (1) to review the rate at which Missourians of various ages die as reported by the U. S. Census of 1950 and 1960;[3, 4] (2) to consider whether the age-specific rate of dying among Missourians has improved during the past decade; (3) to report the natural history of 1,000 medically indigent Missourians seen consecutively at the Ellis Fischel State Cancer Hospital (EFSCH) who had *no cancer detected* during their first examination at the EFSCH; (4) to compare the rate and causes of dying observed by the census for the general population to the rate and causes of dying observed among the 1,000 medically indigent persons as an index for the comparability of EFSCH population to the general population of the state.

MATERIAL

The age-specific death rates and average number of years of life remaining at the beginning of each year of age have been extracted from the "Missouri State Life Tables: 1949-1951" and ". . . 1959-1961," based on U. S. census data, and are plotted in Figs. 1 and 2. Figs. 3 and 4 plot the average number of years of life remaining at various ages since the year 1690.

For comparison to the census data, 1,000 consecutive patients examined at the EFSCH prior to 1955 and found to have *no* cancer, *no* benign neoplasms and *no* premalignant disorders were

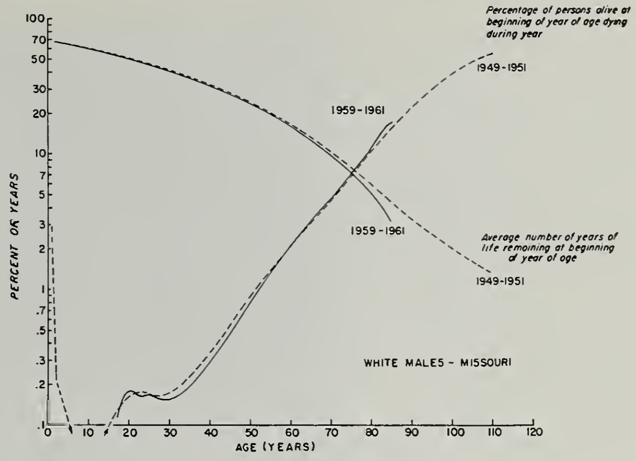


Fig. 1 Comparison of age-specific mortality rates and age specific life expectancy for Missouri males. U. S. Censuses 1949-51 and 1959-61.[3, 4]

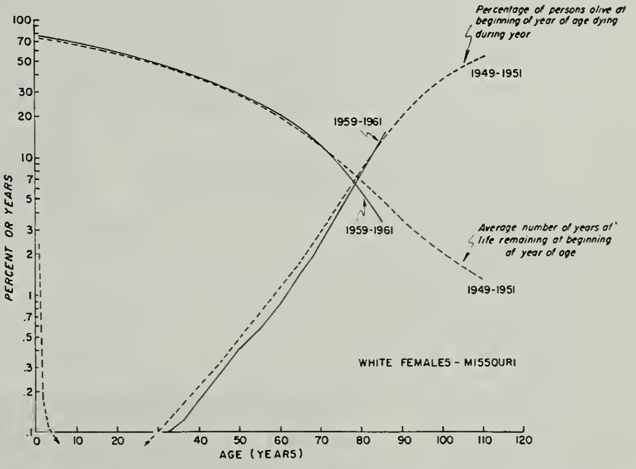


Fig. 2 Comparison of age-specific mortality rates and age specific life expectancy for Missouri females. U. S. Censuses 1949-1951 and 1959-61.[3, 4]

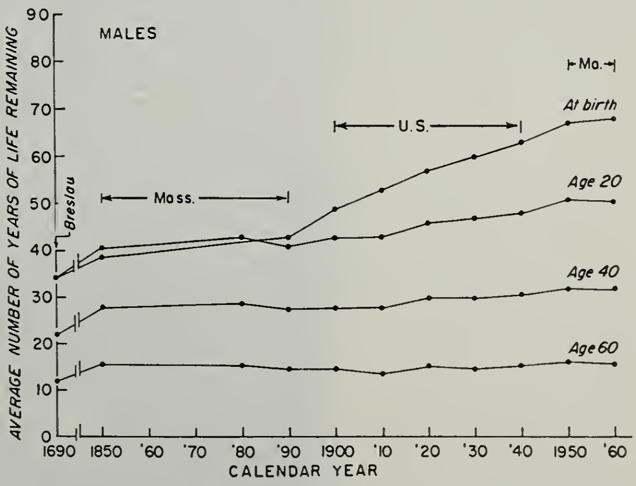
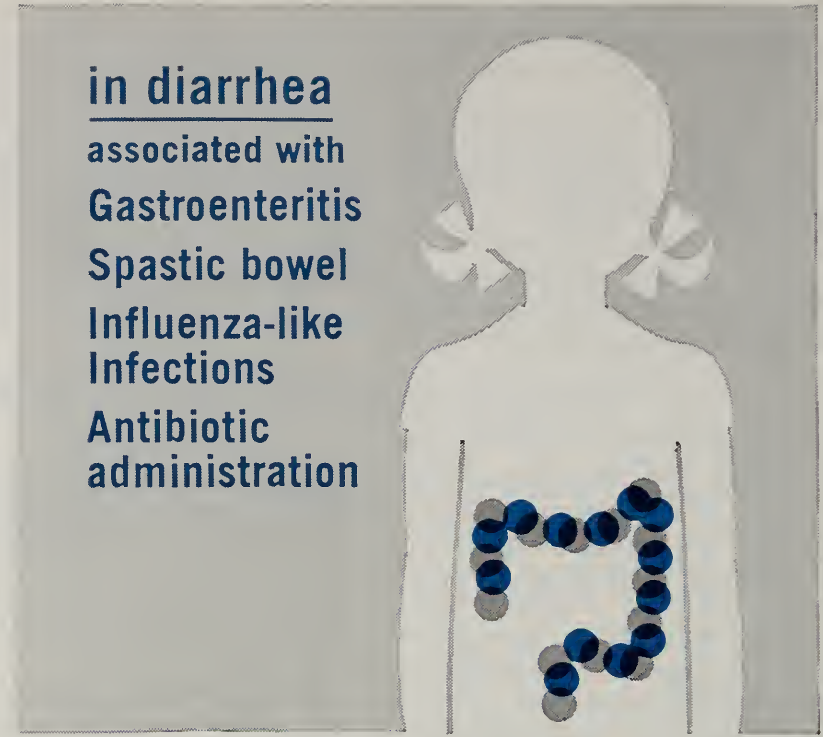


Fig. 3 Average years of life remaining at various ages from 1690-1960—Males.[1, 3, 4, 7]



in diarrhea

associated with

Gastroenteritis

Spastic bowel

Influenza-like Infections

Antibiotic administration

normal activity...

promptly...

n children with diarrhea prompt symptomatic control is usually rgently indicated to relieve cramping and to prevent dehydration.

Lomotil halts precipitous progress through the intestines and ontrols diarrhea with notable promptness, safety and effectiveness.

Experimental evidence[1] has shown that Lomotil is more efficient n this regard than morphine without the latter's manifest disadantages. In roentgenographic study[2] Lomotil slowed gastrointestinal propulsion within two hours.

At the same time, by diminishing overstimulation of the intestines, omotil relieves the abdominal cramps and discomfort so distressng to youngsters.

Lomotil gets children off toast and tea and back to normal diets nd normal activity with gratifying celerity.

with LOMOTIL® liquid/tablets

Each tablet and each 5 cc. of liquid contains:
diphenoxylate hydrochloride ....2.5 mg.
(Warning: may be habit forming)
atropine sulfate ....0.025 mg.

Dosage: For full therapeutic effect—Rx full therapeutic dosage. The recommended initial *daily dosages,* given in divided doses, until diarrhea is controlled, are:

Children:
3 to 6 months—3 mg. (½ tsp.* t.i.d.)
6 to 12 months—4 mg. (½ tsp. q.i.d.)
1 to 2 years—5 mg. (½ tsp. 5 times daily)
2 to 5 years—6 mg. (1 tsp. t.i.d.)
5 to 8 years—8 mg. (1 tsp. q.i.d.)
8 to 12 years—10 mg. (1 tsp. 5 times daily)

Adults: 20 mg. (2 tsp. 5 times daily or 2 tablets 4 times daily)

*Based on 4 cc. per teaspoonful.

Maintenance dosage may be as low as one fourth the therapeutic dose.

Precautions: Lomotil, brand of diphenoxylate hydrochloride with atropine sulfate, is an exempt narcotic preparation of very low addictive potential. Recommended dosages should not be exceeded. Lomotil should be used with caution in patients with impaired liver function and in patients taking addicting drugs or barbiturates. The subtherapeutic amount of atropine is added to discourage deliberate overdosage.

Side Effects: Side effects are relatively uncommon but among those reported are gastrointestinal irritation, sedation, dizziness, cutaneous manifestations, restlessness and insomnia.

1. Janssen, P. A. J., and Jageneau, A. H.: A New Series of Potent Analgesics: Dextro 2:2-Diphenyl-3-Methyl-4-Morpholinobutyrylpyrrolidine and Related Amides. Part 1: Chemical Structure and Pharmacological Activity, J. Pharm. Pharmacol. *9*:381-400 (June) 1957.
2. Demeulenaere, L.: Action du R 1132 sur le transit gastro-intestinal, Acta Gastroent. Belg. *21*:674-680 (Sept.-Oct.) 1958.

SEARLE

Research in the Service of Medicine

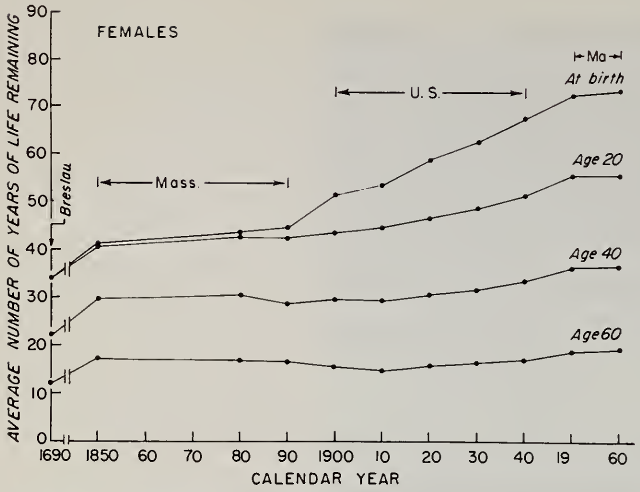


Fig. 4 Average years of life remaining at various ages from 1690-1960—Females.[1, 3, 4, 7]

identified. Referral to EFSCH is for cancer or the "suspicion of cancer" and in these cases the suspicion could not be confirmed. These patients were, however, of the same ethnic, economic and geographic origin as are cancer patients coming to EFSCH and may serve as a control population for comparison to patients with cancer.

Patients not having neoplastic disease are not generally followed nor requested to return to the clinics. Their case is closed to follow-up and they are referred back to the care of their family physicians. Consequently, most of these 1,000 persons had not been seen or contacted in the succeeding 10 years. The Social Service Department with the help of many people across the state located everyone of them. The causes and dates of death of those who had died in the interval were determined.

"What proportion die of each general and perticular Casualties" among the 1,000 EFSCH cases and for the entire state for 1964 is given in Table 1; "What years are Fruitfull, and

TABLE 1

Causes of Death Among Missourians

	EFSCH 1,000 Control Cases #	%	1964* #	%
Cardiovascular diseases (cardiac and peripheral)	111	(33.2)	20,492	(41.4)
Cancer	61	(18.3)	7,730	(15.6)
Cardiovascular disease (cerebral)	53	(15.9)	6,130	(12.4)
Unknown	24	(7.2)		
Pneumonia	13	(3.9)	1,749	(3.5)
Accidents	12	(3.6)	2,807	(5.7)
Renal disease	11	(3.3)		
Complications of peptic ulcers (perforation and hemorrhage)	9	(2.7)		
Debilitation and extreme age	9	(2.7)		
Suicide	6	(1.8)	544	(1.1)
Pulmonary embolism	6	(1.8)		
Cirrhosis of liver	4	(1.2)		
Intestinal obstruction	4	(1.2)		
Syphilis	2	(0.6)		
Peritonitis	2	(0.6)		
Pulmonary disease	2	(0.6)		
Diabetes mellitus	1	(0.3)	788	(1.6)
Child birth	1	(0.3)		
Histoplasmosis	1	(0.3)		
Acute yellow atrophy of liver	1	(0.3)		
Gastrointestinal tract disease	1	(0.3)		
Malformations and diseases of early infancy			1,787	(3.6)
Diseases of the digestive system (Subtotal from above causes)	25	(7.5)	1,742	(3.5)
All other causes			5,768	(11.6)
Total	334		49,537	

* As reported by the Missouri Division of Health.

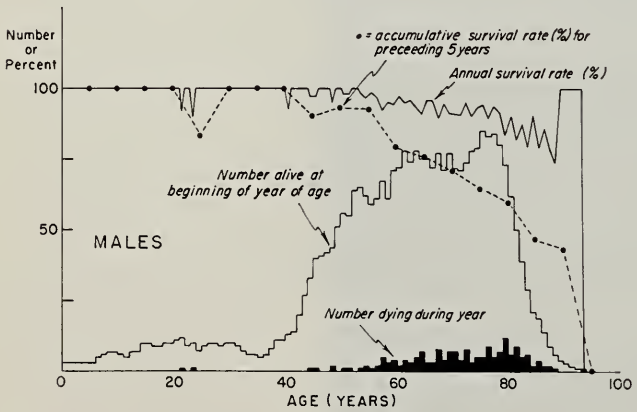


Fig. 5 Rate of dying among the 1,000 control cases from EFSCH—males.

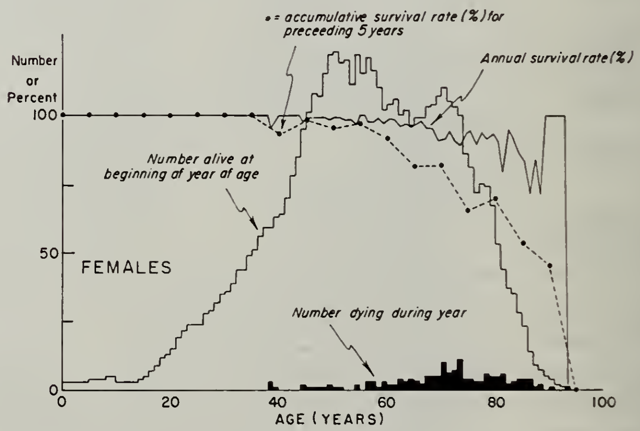


Fig. 6 Rate of dying among the 1,000 control cases from EFSCH—females.

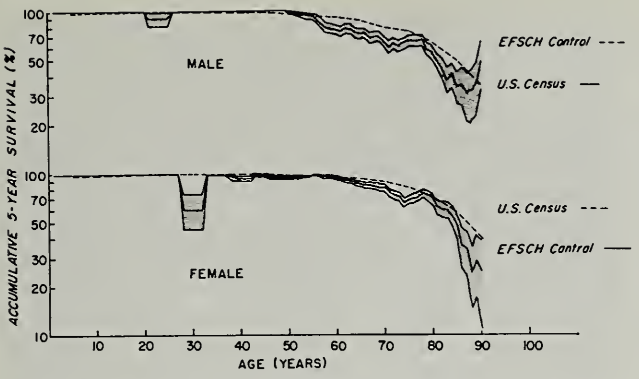


Fig. 7 Five-year accumulative survival of the 1,000 control cases with standard deviation for sample size compared to the five-year accumulative survival for Missourians in U. S. Census 1949-51.

Mortal, and in what Spaces, and Intervals, they follow each other" for the 1,000 people is indicated in Figs. 5 and 6. Based on the data in Figs. 5 and 6, the five-year accumulative mortality rate and the standard error of the rate have been calculated and are plotted in Fig. 7 alongside the census data. Little pediatric data are contained herein since the population of this hospital is predominantly adult.

Of particular interest were the numbers and types of cancers that did indeed develop among these 1,000 persons in the ensuing ten years (Table 2 and Figs. 8 and 9) after having had a "negative" examination before 1955. The age-specific incidence of cancer among this group is also plotted in Figs. 8 and 9.

Finally, to appreciate the changes that have occurred in frequency of death from "perticular Casualties" since the year 1632, Graunt's table for that year is given in Fig. 10.

OBSERVATIONS

Based upon the data contained in Figs. 1-10 and Tables 1-2, the following empirical conclusions are permitted:

1. Among males, the age-specific mortality has

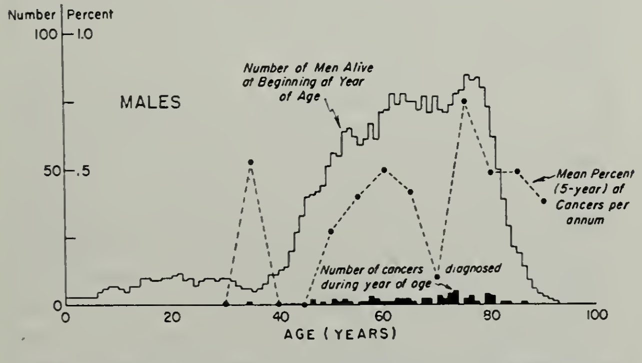


Fig. 8 Rate of cancer development among the 1,000 control cases—males.

TABLE 2

ORIGIN OF LETHAL CANCERS*

Origin of Cancer	*Number of Deaths*	
Gastrointestinal Tract:		
Tongue	1	
Parotid	1	
Stomach	3	
Liver	5	
Pancreas	4	
Small Intestine	1	
Large Intestine	6	
Rectum	5	
Subtotal		26
Respiratory Tract:		
Larynx	1	
Nasopharynx	1	
Bronchogenic	5	
Subtotal		7
Genitourinary:		
Cervix uteri (adenocarcinoma)	1	
Cervix uteri (epidermoid)	1	
Endometrium	1	
Ovarian	1	
Bladder	2	
Prostate	6	
Subtotal		12
Glandular:		
Breast	3	
Thyroid	1	
Subtotal		4
Lymphoma	4	
Leukemia	1	
Soft Tissue	1	
Melanoma (thigh)	1	
Carcinomatosis	5	
Subtotal		12
Total		61

* A total of 103 cancers developed and were diagnosed during the period of observation. These appeared at approximately the same age-specific incidence observed for the state of Connecticut.[6]

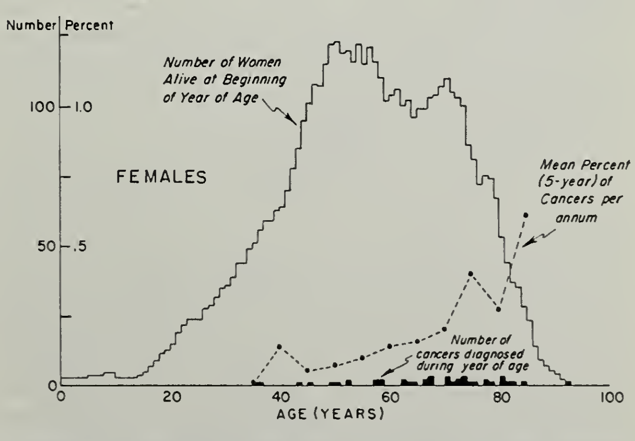


Fig. 9 Rate of cancer development among the 1,000 control cases—females.

The Diseases, and Casualties this year being 1632.

ABortive, and Stilborn	445
Affrighted	1
Aged	628
Ague	43
Apoplex, and Meagrom	17
Bit with a mad dog	1
Bleeding	3
Bloody flux, scowring, and flux	348
Brused, Issues, sores, and ulcers,	28
Burnt, and Scalded	5
Burst, and Rupture	9
Cancer, and Wolf	10
Canker	1
Childbed	171
Chrisomes, and Infants	2268
Cold, and Cough	55
Colick, Stone, and Strangury	56
Consumption	1797
Convulsion	241
Cut of the Stone	5
Dead in the street, and starved	6
Dropsie, and Swelling	267
Drowned	34
Executed, and prest to death	18
Falling Sickness	7
Fever	1108
Fistula	13
Flocks, and small Pox	531
French Pox	12
Gangrene	5
Gout	4
Grief	11
Jaundies	43
Jawfaln	8
Impostume	74
Kil'd by several accidents	46
King's Evil	38
Lethargie	2
Livergrown	87
Lunatique	5
Made away themselves	15
Measles	80
Murthered	7
Over-laid, and starved at nurse	7
Palsie	25
Piles	1
Plague	8
Planet	13
Pleurisie, and Spleen	36
Purples, and spotted Feaver	38
Quinsie	7
Rising of the Lights	98
Sciatica	1
Scurvey, and Itch	9
Suddenly	62
Surfet	86
Swine Pox	6
Teeth	470
Thrush, and Sore mouth	40
Tympany	13
Tissick	34
Vomiting	1
Worms	27

Christened	Males....4994 Females..4590 In all....9584	Buried	Males....4932 Females..4603 In all....9535	Whereof, of the Plague.8

Increased in the Burials in the 122 Parishes, and at the Pest-house this year........ 993

Decreased of the Plague in the 122 Parishes, and at the Pest-house this year........ 266 [10]

Fig. 10 John Graunt's table from J. R. Newman. The World of Mathematics. Simon and Schuster. New York 1956. Vol. III, p. 1425.

declined over the past decade in the pediatric years and in midlife, but has stayed the same or increased in the late teens and 20's and past the age of 55 years (Fig. 1).

2. Among women, the age-specific mortality has declined for all ages except among the extremely old (Fig. 2).

3. For males born alive, the life expectancy increased from 66.75 to 67.3 years (.55 years or 6.6 months) and for females from 72.48 to 73.9 years (1.42 years or 17 months).

4. The decadal doubling of medical knowledge is not reflected in an equivalent improvement in longevity of Missourians. In fact, the outlook is distinctly worse for the male population over the age of 20 (Figs. 1 and 3). The life expectancy of those born alive in Halley's life table for the years 1687-1692 was 34 years. The life expectancy has about doubled once in 272 years. Most of the increased longevity has, however, occurred since 1850. In 1850, men born alive in Massachusetts could expect to live 38.3 years and women, 40.5 years (Figs. 3 and 4). In 1690, a man who had reached age 60 years could on an average anticipate living 12 more years; in 1850, 15.6 years; and in 1960, 15.6 years, a gain of only 3.6 years in three centuries and no gain at all since 1850. The elderly woman's average longevity has increased by a little more than two years since 1850. The leveling of longevity among women and the decreased longevity among men in the state of Missouri is evidence that greater and greater longevity cannot necessarily be "purchased" by greater and greater expenditures for health care. Either contemporary health care is appoaching a limit in its ability to extend longevity further or else gains during the past decade have been nullified by an increasingly abusive environment—accidents, contaminated air and water, overeating, etc. Also, when such disturbing reports as "The Hazards of Hospitalization"[5] come from major teaching centers, we must be concerned that the application of our technology may be acquiring precedence over the first principle of medicine, *primum non nocere*. This report carefully documents that 20% of the patients admitted to a hospital experienced one or more untoward episodes and 10% had prolonged or unresolved episodes. An episode is described as a noxious response to medical care. The noxious episodes were the primary or precipitating cause of death in seven patients among 1,014 consecutive admissions.[5]

5. The 1,000 control patients from the medically indigent population at EFSCH exhibited the same age-specific rate of dying (within the standard error of the sample) as reported in the censuses through about age 50 (Figs. 5, 6, 7). Subsequent to this age, the accumulative survival of the medically indigent was slightly worse than that observed for the general population. Two variables could account for this. First, the cases referred to EFSCH but found to have no cancer were not a random sample of the indigent, since most had some complaint or disorder other than cancer. Second, indigency might indeed affect life expectancy adversely among the elderly. At any rate, the point is established that the Missouri life tables derived from the U. S. Census can be used to correct for the natural mortality attributable to age without the risk of "over-correcting." Age correction of survival data on cancer patients is pertinent to assessing the true mortality from cancer. The true mortality attributable to cancer must be known to evaluate and compare the effectiveness of treatment.[6]

6. The age-specific incidence of cancers developing in the years subsequent to a single negative physical examination remained the same as the age-specific incidence of cancer in Connecticut and the incidence of new cancers in follow-up at EFSCH among patients who had a previous cancer treated.[8] *One* negative physical examination is not permanent prophylaxis against the development of cancer. The incidence of most cancers is very age dependent, the incidence increasing exponentially or geometrically with aging.[9]

7. In Graunt's time "⅓ of the whole died of those

Diseases, which we guess did all light upon Children under four or five years old." Inspection of Fig. 10 shows that tuberculosis, the diseases of impotable water and contaminated food (bloody flux, livergrown, worms) and infectious diseases were the main causes of death. The combined effect of the lethal surgical diseases was also prominent—bleeding, burns, ruptures, stones, strangury, fistulas, gangrene, jaundice (the obstructive cases), trauma, "tympany," etc. The impact of three centuries of growth in public health and medical science has completely changed the relative significance of various causes of death so that two-thirds now die of either cardiovascular disease or cancer (Table 1). The types of lethal cancers that occurred in this study are given in Table 2. Cancer has become such a significant problem that 51% of the people living to age 90 years can expect to have one cancer; 17.5%, two cancers; and 6%, three cancers based on the observed age-specific incidence of this disease.[8] In the year 1964, 7,730 (15.6%) of the 49,537 deaths among Missouri residents were from cancer alone (Table 1).

Summary

A review of the age-specific death rates among Missourians as determined by the last two U. S. censuses has been presented. A control population of 1,000 consecutive patients seen at the EFSCH before 1955 has been identified. The five-year accumulative mortality observed for these 1,000 persons was the same as, or greater than, that reported by the U. S. Census within the standard error of the sample size. Consequently, the mortality observed among EFSCH patients treated for cancer can be adjusted for "natural" mortality, using Missouri state life tables to ascertain the true mortality from cancer without the risk of "over correction." The changing patterns of the causes of death is reviewed. Among adult Missourians cardiovascular disease and cancer now account for two-thirds of the deaths. During the past decade further improvement in the longevity of adult females has leveled and for males has declined in spite of the increasingly active expenditure for health care.

Bibliography

1. Graunt, John: Natural and Political Observations Mentioned in a Following Index, and Made Upon the Bills of Mortality. Printed by Tho. Roycroft, for John Martin, James Allestry, and Tho. Dicas, at the Sign of the Bell in St. Paul's Churchyard, 1662.
2. Halley, Edmund: The Value of Annuities Upon Lives, Drawn From the Bills of Mortality at Breslaw 669, 678. *The Philosophical Transactions and Collections, to the End of the Year MDCC,* 1781, Vol. III.
3. *Missouri State Life Tables:* 1949-51, U. S. Dept. of Health, Education, and Welfare, Vol. 41, Supp. 24. U. S. Government Printing Office, Washington, D. C., 1956.
4. *Missouri State Life Tables:* 1959-61, Prepublication copy furnished by Missouri Division of Health, 1965.
5. Schimmel, Elihu M.: *Hazards of Hospitalization,* Ann. Intern. Med. 60:100, 1964.
6. Finney, D. J.: Probit Analysis. A Statistical Treatment of the Sigmoid Response Curve. *Adjustments for Natural Mortality,* Chap. 6, p. 88. Cambridge University Press, London.
7. *The Statistical History of the United States from Colonial Times to the Present.* Stamford, Connecticut, Fairfield Publishers Inc., 1965.
8. Spratt, J. S., Jr. and Hoag, M. G.: *Incidence of Multiple Primary Cancers per Man-Year of Follow-up.* Submitted for publication.
9. Strehler, B. L. and Mildvan, A. S.: *General Theory of Mortality and Aging.* Science, 132:14-21, 1960.

Temporal Arteritis (Cont'd.)

ings. The erythrocyte sedimentation rate is always elevated. Biopsy of the cranial arteries may or may not confirm the diagnosis. The typical histological picture is necrosis of the arterial media with granulomatous replacement.[5] The intima is thickened and there may be thrombus in the lumen with or without organization. During the acute phase multinucleated foreign-body giant cells are found. The histologic findings are rapidly altered by corticosteroid therapy, with rapid disappearance of the giant cells and decrease in inflammatory reaction.

Birkhead, Wagener and Shick[1] show that the disease responds well to corticosteroids. If treatment is begun soon enough, the serious ocular manifestations of the disease may be prevented. However, if present, ocular changes appear to be irreversible. The importance of early diagnosis is thus evident. In the cases presented in this report there was prompt relief of symptoms with treatment but no vision was regained. It appears that the visual loss resulting from the disease is irreversible.

Summary

The two cases presented, together, provide a fairly typical illustration of the history and physical findings in cranial arteritis. The classical findings of the disease are described and the occurrence of atypical or occult cases is discussed. The favorable response to corticosteroids is described and the importance of early diagnosis and treatment is emphasized.

Bibliography

1. Birkhead, N. C., Wagener, H. P. and Shick, R. M.: Treatment of Temporal Arteritis With Adrenal Corticosteroids: Results in 55 Cases in Which Lesion Was Proved at Biopsy. JAMA, 163:821, 1957.
2. Wagener, H. P. and Hollenhorst, R. W.: The Ocular Lesions of Temporal Arteritis. Am. J. Ophth., 45:617, 1958.
3. Simmons, R. J. and Cogan, D. G.: Occult Temporal Arteritis. Arch. Ophth., 68:8, 1962.
4. Leishman, R.: in Sorsby, A.: Modern Ophthalmology. Washington, Butterworths, 1963, Vol. 2, p. 529.
5. Spencer, W. H. and Hoyt, W. F.: A Fatal Case of Giant Cell Arteritis (Temporal or Cranial Arteritis) with Ocular Involvement. Arch. Ophth., 64:862, 1960.

CYRIL COSTELLO, M.D., *St. Louis*

Carcinoid Syndrome Control With a New Antiserotonin Agent

Case Reports

THE ROLE OF SEROTONIN IN DISEASE has rapidly assumed increasing importance in many physical and emotional disorders in recent years as evidenced by a voluminous medical and scientific literature on the subject which includes psychiatric and neurological disorders, hypertension, Raynaud's disease, carcinoid tumor syndrome, interaction with or antagonism to LSD, rheumatoid arthritis, eclampsia, migraine, gastrointestinal disorders (such as ulcers, colitis and dumping syndrome), carcinomas and such allergic disorders as asthma. Our particular interest has dealt with the role of serotonin in the carcinoid syndrome.[1, 2, 3]

In a number of pharmacological test preparations, SQ 10,643 (2'-(3-Dimethylaminopropylthio) cinnamanilide hydrocholoride) manifested potent antiserotonin activity. SQ 10,643 in low doses specifically inhibited serotonin's oxytocic effect on the rat's uterus in vitro as well as serotonin's bronchoconstrictor and vasopressor actions in anesthetized dogs. SQ 10,643 also inhibited LSD-induced hyperthermia in rabbits. This antiserotonin agent inhibited gross excitation in mice and gastric mucosal erosions in rats, induced by large doses of 5-OH tryptophan. SQ 10,643 also manifested moderate anti-anaphylactoid effects in dextran-induced edema in rats or moderate antiphlogistic effects in localized edema produced by serotonin, bardykinin or histamine. SQ 10,643 blocked the EEG slowing produced by 5-OH tryptophan in cats. In other test preparations, however, SQ 10,643 was less specific or inactive as an antagonist to the actions of serotonin or 5-OH tryptophan.[4, 5]

The effects of this antiserotonin drug have been studied in three patients with proven advanced carcinoid metastases and carcinoid syndrome and are herein reported.

CASE REPORTS

Case # 1. A 36-year-old woman was admitted to Barnes Hospital for study on February 22, 1965. She was known to have extensive liver metastases from carcinoid tumor discovered surgically in June of 1964. She had previously been studied for management of her carcinoid syndrome which consisted principally of diarrhea and severe flushing. On a course of 5-fluoro-tryptophan (a tryptophan analog) she had accomplished complete response with return to a normal, well formed stool after each meal and with disappearance of severe flushing. Following the studies of July 1964, the patient had received additional courses of orally administered 5-fluoro-tryptophan for recurrences of flushing and diarrhea, but had received no chemotherapy for months when she was returned to the hospital for the current study.

At the time of admission she was having five or six loose stools daily and one prominent flush daily, usually immediately after breakfast. These symptoms were present despite her use of opium and atropine capsules daily in an attempt to control the diarrhea. During the flush she was aware, as were other observers, that her face became quite red. During the study period she received no medication except 10 mgm. of SQ 10,643 every six hours starting on February 25. She gradually developed less severity of the flush and the redness of her face disappeared. At the time of her discharge on March 5 (eight days later) she was having four soft bowel movements daily, which she considered normal, and was having a mild flush without redness usually around mid-morning.

After discharge from the hospital she continued taking SQ 10,643 (10 mgm.) four times daily for 51 additional days, at which time (April 25) medication was discontinued. She remained symptomatically well until May 19, when she began having recurrence of flushes three times daily and loose watery stools six to ten times daily. At this time she was restarted on SQ 10,643, 10 mgm. four times daily, and by June 7 (eighteen days later) she was having no flushes and was having one to two small bowel movements without diarrhea after meals. She continued on the SQ 10,643 until September 17, at which time she was having no flushing and no diarrhea and taking no additional medication.

During her hospitalization daily 5 HIAA urinary studies revealed no appreciable change in excretion. Her blood count, urinalysis and BUN studies revealed no changes. After discharge from the hospital periodic physical examination and laboratory studies revealed no aberrations and the patient remained symptom free. Periodic checks of FBS, BUN, creatinine, cholesterol, AG ratio, cephalin flocculation, hemoglobin, sed. rate, hematocrit, WBC and differential blood counts remained constantly normal. The patient had no symptomatic side effects from the drug and was extremely pleased with her relief from symptoms of the carcinoid syndrome.

Case # 2. A 58-year-old woman with proven carcinoid metastases and carcinoid syndrome was rehospitalized on January 12, 1965. She had previously been treated in October 1964 with a course of 5-fluoro-tryptophan for management of her carcinoid syndrome which consisted predominantly of flushing and diarrhea. Since that time she had had no flushing but had experienced diarrhea which she had been able to limit to three loose stools daily by using one to three tablets of Lomotil® daily.

In the hospital this patient was given no drugs except 10 mgm. of SQ 10,643 every six hours. She was maintained on this program until her discharge from the hospital on January 23. Blood counts, urinalysis, BSP, FBS and BUN were found to be normal on admission as well as at the termination of her hospitalization. Daily quantitative urinalysis for 5 HIAA revealed no significant variation.

The SQ 10,643 was well tolerated with no subjective or objective untoward effect. After one week of treatment, diarrhea subsided and did not require any anti-diarrheal drug previously used to reduce the stools to three loose movements daily. The serotonin activity was apparently "neutralized" since 5 HIAA in the urine was not reduced, in contrast to the results when the intracellular blocking agent (5-fluoro-tryptophan) had been utilized.

After discharge from the hospital the patient was put on a regimen of 10 mgm. of SQ 10,643 only three times daily and was unable to control her diarrhea without fortifying herself with three Lomotil® tablets daily. Even this combination did not relieve the severe pain which developed in her back and in the region of her liver as well as the cramps associated with her diarrhea. She was placed on complete abstinence from all drugs. Briefly and rapidly she developed ten to 12 loose watery stools daily with severe abdominal cramping, weight loss and sensation of serious illness with loss of ten pounds in approximately 14 days. During this time, because of pain following eating and nausea with vomiting, she was limiting herself finally to small amounts of liquids only.

On August 10, 1965, she was returned to a regimen of tryptophan analog (6-methyl-tryptophan, 200 mgm. every six hours) and SQ 10,643, 10 mgm. every six hours. Very promptly she began regaining weight and recovered from abdominal pain, diarrhea and flushing. Within three weeks she had regained eight pounds of weight, felt quite well and left her home in good spirits for a vacation cross-country from Oklahoma to Montana.

A report on the use of a new antiserotonin agent which has been effective in the control of the symptomatology due to the carcinoid syndrome. Three case reports are presented in detail, showing the efficacy of the new drug which was well tolerated in all instances. Doctor Costello is from the Department of Surgery, Washington University School of Medicine.

Case # 3. A 61-year-old woman was admitted to Barnes Hospital on March 15 and discharged on April 13, 1965. From an operation in July of 1963 she was known to have carcinoid of the ileum with lymph nodal and peritoneal metastases. She had been studied in October 1964 and was found to have complaints resulting principally from mental aberrations and severe generalized flushes, although she had never experienced diarrhea. Her pre-study urinary 5 HIAA varied from 27 to 47 mgm. % for four days (normal: less than 10). On the recent admission, she complained of epigastric burning which was relieved by food and almost continuous flushing which was very annoying to her. She was given 10 mgm. of SQ 10,643 every six hours for ten days, during which time her flushing became much milder and by her count varied from seven to 11 times daily. Her 5 HIAA excretion averaged 63.4 mgm. % daily.

For the following seven days a tryptophan analog, 5-fluoro-tryptophan, was added in the amount of 200 mgm. every six hours and her flushing became milder and varied from two to seven times daily while her 5 HIAA urinary excretion averaged 37.0 mgm. % daily. During the ensuing week, the 5-fluoro-tryptophan was increased to 200 mgm. every four hours and the patient was not able to count any definite episodes of flushing. Her 5 HIAA urinary excretion averaged 32.8 mgm. % daily which was 66% of her baseline pre-treatment average and approximately 50% of the average daily excretion while on SQ 10,643 alone.

During these observations the WBC, hemoglobin, hematocrit, blood sugar, BUN and urinalysis revealed no significant alteration, and the patient experienced no side effect or untoward reaction to the medications. She continued to receive 10 mgm. of SQ 10,643, alone every six hours until August 19, at which time she was having little, if any, flushing that she could recall. She volunteered that she had not noticed any nausea which she had experienced frequently prior to medication.

CONCLUSION

A new antiserotonin agent, SQ 10,643 has been studied for its effect on the carcinoid syndrome in three proven cases of extensive carcinoid metastatic disease. Careful clinical and laboratory studies, originally in the hospital and subsequently outside the hospital, have been determined. In all three patients the symptoms were markedly or completely relieved and no evidence of clinical or laboratory toxicity to the chemical was apparent. While symptoms were controlled, the urinary excretion of 5 HIAA was not markedly influenced by the antiserotonin drug. In two patients, the addition of a tryptophan analog to the antiserotonin drug enhanced the clinical effectiveness; and in one patient, so studied, the urinary excretion of 5 HIAA was appreciably reduced. It is concluded on the basis of these three case studies that 5 HIAA is a potent antiserotonin agent in the management of the carcinoid syndrome, although it is not anticipated that the drug should have any effect on the growth of the tumor or the production of the serotonin.

Acknowledgment: Gratitude is expressed to The Squibb Institute for Medical Research, New Brunswick, New Jersey, for the generous supply of SQ 10,643 used in this study.

BIBLIOGRAPHY

1. Costello, Cyril: Specific Chemocidal Therapy. Missouri Med., 59:418-424, May, 1962.

2. Costello, Cyril: Experiments with Advanced Carcinoids. Amer. J. Surg., Vol. 106, October, 1963.

3. Costello, Cyril: Management of Carcinoid Syndrome. Arch. Surg., 90:787-792, May, 1965.

4. Rubin, Bernard and Waugh, Margaret H.: Antiphlogistic Effects of Antiserotonin (SQ 10,643) and Aminopyrine in Rats Versus Endotoxin and Other Agents. Pro. Soc. Exp. Biol. and Med., 119:438-443, 1965.

5. Furgiuele, A. R., High, J. P. and Horovitz, Z. P.: Some Central Effects of SQ 10,643 (2′3-Dimethylaminopropylthio) Cinnamanilide Hydrochloride), A Potent Serotonin Antagonist. Arch. Int. Pharmacodyn., 155:1, 225-235, 1965.

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Tuesday, March 8, 1966—6:00 P.M.
St. Louis Medical Society Auditorium
3839 Lindell Boulevard
All Members of the Profession Invited

Paul R. Whitener, M.D.

President's Message

A few weeks ago a newly transferred "detail man" was in my office. In the process of getting acquainted (and prefacing the real purpose of his visit) he asked, "Incidentally, Doctor, what is your specialty?"

I have always considered myself a general practitioner, but on the spur of the moment I answered, "If I am a specialist of any type, I believe you would have to say that I specialize in *political medicine!*"

That answer was, of course, for the most part facetious. But upon examination there may be a larger nugget of truth involved than at first meets the eye. In a sense, every physician is required to practice some "political medicine." Every day we are called upon to make political decisions, that is, decisions which directly or indirectly relate to "the science or art of political government." This may involve support of a candidate for the local school board, the city council or some higher government position. It may involve utilizing our medical knowledge to aid in a campaign for venereal disease education in the schools. It may involve fighting against a piece of proposed health legislation which we believe to be ill advised. It may be writing a prescription for a welfare recipient. Or, it may be the simple act of responding to the question of an over-65 patient who wants to know whether he should sign up for "$3.00-a-month medicare."

Each of these possibilities has its political overtones and implications. So even though you may not subscribe to the philosophies and activities of the American Medical Political Action Committee (AMPAC) and you want nothing to do with the Missouri Medical Political Action Committee (MMPAC), you are still practicing "political medicine" in one way or another.

Paul R. Whitener M.D.

Woman's Auxiliary

Greetings! And a big, warm "thank you" to all of you who, perchance, may read this—the last of 18 articles I have written for MISSOURI MEDICINE! It is with mixed emotions that I ponder that thought! In a way, I shall be happy to be relieved of the responsibility of being your state President for 20 months, but I am sure I shall miss the cheery communications, the friendly visits and the splendid cooperation I have had from both MSMA and the Auxiliary. I would like to say a special "thank you" to Ray McIntyre, Allen Smith and those in the state office who have been so kind to me.

Mrs. R. W. Bohnsack

Right now the chief thing on my mind—and desk—is the planning for our state convention, March 27-30. We will be having our meetings at the Hotel President in Kansas City while our doctors are holding theirs at the Hotel Muehlebach. This division was necessary because of the remodelling job which the Muehlebach is undergoing. However, on Sunday night, March 27, we shall all enjoy a reception and dinner together at the Muehlebach. Some fine entertainment is being planned for that affair, so get your reservations in early!

Our meetings on Monday and Tuesday will be in the Aztec Room of the Hotel President, as will be our registration and Pre-Convention and Post-Convention Board meetings.

Our Monday luncheon will be at Pierson Hall on the beautiful campus of the University of Missouri at Kansas City. The Tuesday installation luncheon will be in the Ballroom of the Hotel President. Clay County is hostessing the Monday luncheon; Buchanan County, the Tuesday luncheon. Of course Jackson County members with Brenda Nickson, President, and Lucile Ferris and Frances Barnett, Co-Chairmen, are the general hostesses for our convention and are working like beavers to prove that "EVERYTHING'S UP TO DATE IN KANSAS CITY!"

Our own Betty Sutter, AMA Auxiliary President, will be the honored speaker at our Monday luncheon, and Dr. Paul Whitener will being greetings from MSMA. We shall also honor Dr. Byron M. Stuart, President-Elect, Dr. Hector Benoit and Dr. Joseph Fisher, members of our Advisory Council, and their wives, as well as the Auxiliary Past-Presidents. The nurses from Research Hospital will entertain us with a clever skit written by Mrs. T. Reid Jones; and we will enjoy a tour of Hall's beautiful new store on the Plaza.

At our Tuesday luncheon, Dr. Esther Winkelman, world traveller, will entertain us with a talk on her recent trip to Morocco, and we will see the presentation of the AMA-ERF awards and the Point System winners. Wilda Stacey will be installed as your new President, and she will preside as the Post-Convention Board meeting. There will be several surprises in store for you, so get your baby-sitters lined up and your new shoes broken in and head for K. C.!!

March is the month in which we honor our doctors with a special celebration. We hope all the auxiliaries will inform Gloria Leslie, state chairman, of their plans for this special occasion. A contribution to the Missouri Student Loan Fund or to AMA-ERF would be a fitting tribute!

The Point System sheets and reports are beginning to come in, and I read them with pride in the accomplishments of our county auxiliaries. Even though some of the groups are quite small, each one has contributed to our projects. Each report makes me proud to have been chosen to serve as your President. It has been an added honor to serve while Betty Sutter has been National President and Ruth Kelling has been President of the Southern Medical Association Auxiliary.

I shall hope to see all of you in Kansas City, March 27-30. Don't disappoint me! And thanks for EVERYTHING!

EDITORIALS

MAY OR MUST?

A "battered child" law went into effect in Missouri in the fall of 1965 after being approved by the General Assembly earlier in the year. Physicians of the state should be aware of the law, not only for its specific provisions, but also for the philosophical conflict which accompanied its conception and birth.

The new law *permits* any physician to report to appropriate law enforcement agencies any case in which a child may have suffered "serious physical injury" by "other than accidental means." The physician may make such a report without fear of criminal or civil liability, a factor which in the past may have caused doctors and others to move warily in this area.

The bill as originally drafted and introduced by Representative Helen C. Hardy (D.-Maries County) would have placed a mandate on the physician, *requiring* him to report cases of suspected child abuse. The legislative committee of your State Medical Association examined this proposal and in the light of known experience urged the General Assembly to keep the reporting of child abuse cases on a permissive basis. It was pointed out that child abuse often involves variables of family relations or mental health which cannot be anticipated by cold rigid legalistic provisions. It was urged that the reporting of such cases be placed in a broad framework which would permit medical, social or religious counseling before turning to criminal prosecution as a last resort.

Mrs. Hardy and her colleagues of the legislature listened to these arguments and amended the bill accordingly. Their action places a real responsibility upon the physicians of Missouri. The individual doctor will have to decide whether a suspected "battered child" can best be helped through private professional agents or whether public authorities should be called into the case. Some communities are establishing facilities which may help the physician make this decision. Central records centers are being organized to collect information on "battered child" cases, and in this manner authorized persons are at least aware of the "repeaters" among the perpetrators of child abuse. Local medical societies should be encouraged to sponsor establishment of such centers.

The philosophical conflict which was raised by the "battered child" legislation is the same conflict which is occurring in many areas of our modern society. It is the conflict between "permission" and "compulsion."

Forty-seven states have passed legislation pertaining to the "battered child" and many of these laws make the reporting of suspected cases mandatory. The Missouri General Assembly by its action has correctly assumed that the physicians of this state, given proper legal protection, will carry out their responsibility in this area willingly and voluntarily. For this reason, the Missouri law is permissive rather than mandatory.

C. READ BOLES, M.D.
President-Elect
St. Louis County Medical Society

OUR CONGRATULATIONS TO THE DOCTORS

It isn't usual to congratulate people for obeying the law, but this is an exceptional case. We are talking about the medical doctors of Missouri.

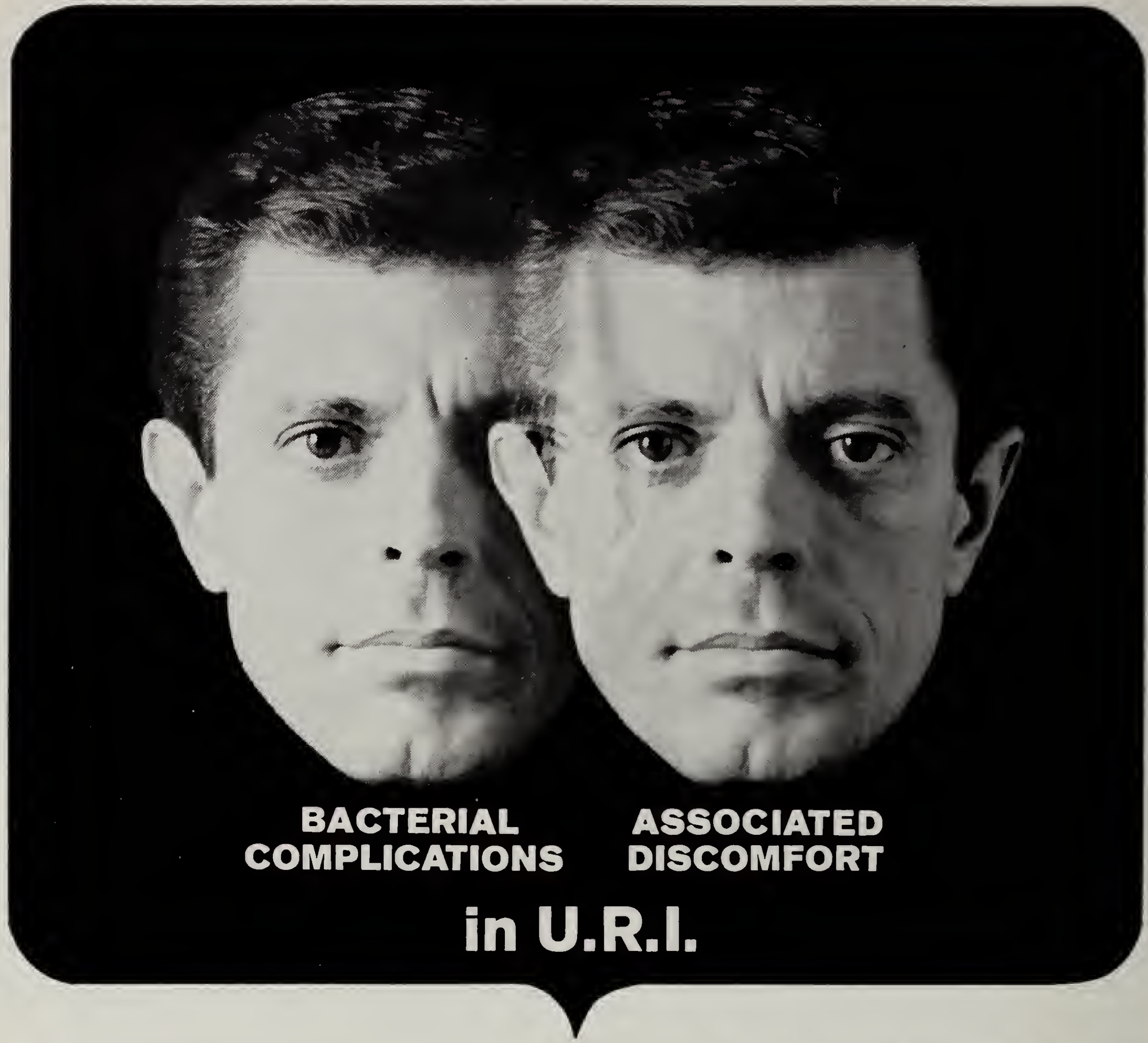
The doctors in the state have an organization called the Council of the Missouri State Medical Association. A few days ago the Association released a policy statement to the effect that it will observe the letter of the law when Medicare becomes effective next July 1. Not all state medical associations have done that. Some doctors have vowed that they will fight this law to the bitter end.

The doctors in Missouri stated that they would continue to give the best medical service possible, but reserved the right to suggest and fight for any changes in the law which they will deem beneficial in the light of experience.

The doctors would not be doing their duty if they didn't ask for such changes, and we feel sure the people will be with them. No man-made law has ever been made that didn't require some changes for betterment after some experiences with it.

We feel congratulations for Missouri's doctors are in order. We think they are following a sound and sensible course. Sound and sensible courses have become a rare commodity in these hectic modern times.

(Reprinted from the *Washington Missourian,* December 23, 1965.)



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Editorials (Cont'd)

PREVENTABLE BLINDNESS

Blindness is a catastrophe to the individual who is afflicted by it. Blindness is even more of a catastrophe when due to a condition which can be arrested with proper treatment.

On other pages in this issue the entity known as *temporal arteritis* is dicussed. The importance in knowing of this rather rare condition is that it is treatable. If treated early this disease is relatively benign. If not treated about one fifth of the patients with this condition go blind. Typically, the patient with this disease is a 60 to 70 year old individual with malaise and a temporal headache which gradually increases in severity. The sedimentation rate is the one laboratory test needed for a presumptive diagnosis. Biopsy of a cranial artery is necessary for a proven diagnosis.

All physicians should be aware of this entity of *cranial arteritis* so that the occasional patient with it can be diagnosed and treated rapidly. This disease is an emergency as much as an acute glaucoma. If steroid therapy is started at once most, if not all, of the serious morbidity can be blocked. In this way the disaster of preventable blindness can be avoided.

STEPHEN F. BOWEN, JR., M.D.
St. Louis

THE CONTINUING BATTLE

"Physicians, as conservators of the public health, are bound to bear emphatic testimony against quackery in all its forms."

Is this a quote from proceedings of the American Medical Association's Clinical Convention in Philadelphia in December? The meeting *was* in Philadelphia, but the year was 1847!

So you see, from its very inception 118 years ago, the American Medical Association has been battling quackery; and it is dedicated to a continuation of this warfare against wasting the nation's health and its health care dollar, of fighting fraud at the bedside of ill and desperate people. For, as long as there are human beings, there will be human nature and there will be quacks (pretenders to ability they don't possess) to take advantage of the fact.

The health quack is not so easy to spot these days. The stovepipe hat and the pitchman's hawking have gone. In their place are their space-age counterparts, the suave, apparently-sophisticated super salesmen with the Madison Avenue manners. These merchants of menace, more insidious and unscrupulous than ever, have many new products, worthless diet fads, worthless food supplements, worthless cosmetic devices and treatments, worthless "cures" for everything, even in the area of mental illness.

They bilk the undiscerning, the uninformed, the desperate, the unsuspecting of all ages—of millions of dollars a year. The estimates of the costs of medical quackery are at best calculated guesses, but they have gone as high as a billion dollars a year. One authority in the field of quack-fighting has stated that "medical quackery each year costs more lives than all crimes in the United States."

It is this cost of life and health that has placed America's physicians in the front lines of the war on quacks. It is the insidious side effect of quackery with which medicine concerns itself—the delay in proper medical care that may cost life itself.

It is for this reason, too, that the medical profession is dedicated to education of the people about cultism, chiropractic and the other health sects which turn their backs on scientific medicine.

The House of Delegates of the American Medical Association said in 1933:

"Either the theories and practices of scientific medicine are right and those of the cultists are wrong, or the theories and practices of the cultists are right and those of scientific medicine are wrong."

And in 1961, it said:

"There can never be a majority party and a minority party in any science . . ."

After the quack or the cultist has extracted his pound of flesh, after the damage is done and after the sick may have become the dying because of the delay in proper care, scientific medicine usually is called upon to pick up the pieces.

Medicine has tried and will continue to try to do that job. But how much easier the job would have been, how many lives would have been saved . . . if. . . .

H. DOYL TAYLOR, LL.B.
Director, AMA Department
of Investigation

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FINANCIAL STATEMENT FOR THE YEAR 1965

LENNERTSON & COMPANY
CERTIFIED PUBLIC ACCOUNTANTS
214 South Bemiston Avenue

ST. LOUIS, MISSOURI 63105

January 24, 1966

Missouri State Medical Association,
634 North Grand Blvd.,
St. Louis, Mo.

Gentlemen:

An examination has been made of the accounts of the Missouri State Medical Association, a non-profit Missouri corporation, for the year 1965 and a report thereon is presented together with the following exhibits:

Exhibit A	Balance Sheet
Exhibit B	Income Statement
Exhibit C-1	Statement of Committee and Meeting Expenses
Exhibit C-2	Statement of Investments
Exhibit D	Dues Receivable and Membership by Societies

It should be noted that members' dues and investment income are taken into income on the cash receipts basis whereas the other accounts are maintained on the accrual basis. Rentals received in advance for Annual Session exhibit space are shown as prepaid and carried forward to the year to which they apply.

Scope of Examination

The Balance Sheet at December 31, 1965 and the Income Statement for the year then ended were reviewed. Examinations or tests were made of the accounting records, in the manner and to the extent deemed appropriate, without making a detailed audit of the transactions.

Recorded cash receipts for the year were traced in total into the bank as deposits and disbursements for the period were substantiated by an inspection of paid checks, purchase invoices and other data on file.

Income Statement

The financial result of activities of the Association for the year 1965 was an excess of expenses over income of $2,498.06 as set forth in Exhibit B. Exhibit C-1 presents a summary of committee and meeting expenses for the year.

Selective tests were made of the income and expense accounts for the period. It was noted that space in The Journal was contributed to the United States Treasury Department for bond advertising, to members for small classified ads and to the Missouri State Medical Foundation.

Balance Sheet

The financial position of the Association at December 31, 1965 is presented in Exhibit A. Comments on the larger Balance Sheet accounts follow:

Cash in banks, as shown by the books, was reconciled to the regular monthly bank statements and confirmations received from the depositories. The petty cash fund was verified by physical count.

Investments with a cost of $112,582.87 were confirmed by a statement from the custodian, Mercantile Trust Company. Investment income for the year consists of the following:

Interest and Discount on Bonds	$2,789.19
Dividends on Stock	1,105.38
Total Investment Income	$3,894.57

Accounts Receivable of $5,414.61 represent the unpaid balance due from Journal advertisers. Of this amount $5,400.61 was due from the State Journal Advertising Bureau as follows:

December 1965	$2,258.62
November 1965	2,504.07
Prior to November 1965	637.92
Total	$5,400.61

On January 19, 1966, a check was received paying $2,413.29 of the November and prior accounts.

Unpaid dues of $2,282.50, offset by a reserve account in like amount, represent 1965 dues of delinquent members carried at the requests of local societies. Other delinquent members were dropped from membership in accordance with the by-laws. Exhibit D presents a summary of unpaid dues and membership by societies, as shown by the records of the Association.

Furniture and fixtures continue to be stated in the fixed amount of $1,000. Equipment purchases, rentals and repairs for the year in the sum of $680.93 were charged to expense in lieu of depreciation.

The records were carefully reviewed for liabilities at December 31, 1965 and it is believed that all current liabilities of substantial amount are included in the Balance Sheet. The by-laws require the Association to furnish financial assistance up to $300, on each mal-practice suit. The Association reports one suit in litigation at year-end.

Exhibitors have made advance payments of $4,860 for annual session exhibit space and these payments will be taken into income when earned in 1966.

The excess of assets over liabilities in the amount of $123,023.04 is shown in the Balance Sheet as a "Reserve for Future Activities."

General

During the year, payments were made to or for the following sponsored organizations:

Missouri State Medical Association Pension Trust	
Employees' Retirement Insurance Premiums	$3,253.41
Employees' Pension Plan Contribution	4,746.59
Total	$8,000.00
Missouri State Medical Foundation	
Insurance and Audit	$1,317.23

Other collections with the annual dues include amounts for American Medical Association, Missouri State Medical Foundation, and an assessment for assisting doctors respondents in the Community Blood Bank of Kansas City case. Following is a schedule of dues and assessments for each member.

	Active	*Junior*
Journal	$ 1.50	$ 1.50
Society	41.00	19.75
Foundation	7.50	3.75
Assessment	5.00	5.00
Missouri State Medical dues and assessments	$ 55.00	$30.00
American Medical Association	45.00	45.00
Total	$100.00	$75.00

Collections for the Community Blood Bank case of $17,762.50 have been remitted to the attorneys for the doctors, and collections of $24,473.48 for the Missouri State Medical Foundation have been remitted except for $979.09. The $45 per member collected for the A.M.A. has been remitted.

Insurance policies were inspected and the following general insurance was in force at the close of the year:

Insurance on	*Type of Coverage*	*Amount*
Furniture and Fixtures	Fire and Extended Coverage (80% co-ins.)	$6,500
Employees	Workmen's Compensation	Statutory
Lessee's Liability	Bodily Injury	$25,000/50,000
President and Treasurer	Fidelity Bond	$20,000
All Other Employees	Fidelity Bond	$5,000
Automobiles of Executive Secretary and Three Assistants	Non-ownership—Bodily Injury	$50,000/100,000
	Non-ownership—Property Damage	$5,000
Members and Auxiliary Members on M.S.M.A. business	Travel Accident (away from home)	$25,000/250,000

Subject to the comments thereon, the attached statements, in our opinion, present fairly the financial position of the Missouri State Medical Association at December 31, 1965 and the result of its activities for the year then ended, in accordance with accepted principles of accounting applied on a basis consistent with that of the preceding year.

Yours very truly,
Lennertson & Company,
Certified Public Accountants.

Exhibit A

Missouri State Medical Association
Balance Sheet, December 31, 1965

Assets		
Cash		
Mercantile Trust Company (Treasurer's Account)	$ 10,424.57	
Mercantile-Commerce National Bank (Secretary's Account)	517.66	
Petty Cash Fund	25.00	$ 10,967.23
Investments at Cost (Exhibit C-2)		
U. S. Government Bonds	$ 80,511.67	
Corporate Bonds	5,000.00	
Common Stocks	27,071.20	
Total (Market Value $116,826.29)		112,582.87
Accounts Receivable		
Advertisers	$ 5,414.61	
Mercantile Trust Company—Investment Custodian	1.122.43	6,537.04
Dues Receivable—Exhibit D (See Reserve—contra)		2,282.50
Furniture and Fixtures (at stated value)		1,000.00
Advances for Travel Expenses		199.77
		$133.569.41
Liabilities		
Accounts Payable		
Supplies and Expenses	$ 1,662.62	
Payroll Taxes	762.16	
Due Missouri State Medical Foundation	979.09	$ 3,403.87
Deferred Credit to Income		
Advance Payments by Exhibitors		4,860.00
Reserve for Uncollected Dues		2,282.50

Reserve for Future Activities		
Balance January 1, 1965	$125,521.10	
Excess of Expenses Over Income for the Year 1965 (Exhibit B)	(2,498.06)	123,023.04
		$133,569.41

Missouri State Medical Association
Income Statement for the Year 1965

Exhibit B

Income Particulars	*General Activities*	*Journal Publication*	*Total*
Dues Received (includes $1.50 Per Member Annually for The Journal)	$138,894.41	$ 5,461.50	$144,355.91
Rentals—Annual Session Exhibit Space	10,940.00		10,940.00
Subscriptions to The Journal—Nonmembers		270.70	270.70
Advertising Space—The Journal		35,673.24	35,673.24
Investments—Interest and Dividends	3,894.57		3,894.57
Collection Fees on A.M.A. Dues	1,491.74		1,491.74
Rental Income—Office Space	780.00		780.00
Total Income	$156,000.72	$41,405.44	$197,406.16
Expenses			
Salary—Executive Secretary	$ 8,666.67	$ 4,333.33	$ 13,000.00
Office Salaries	39,794.70	19,897.30	59,692.00
The Journal—Paper, Printing, etc.		29,808.63	29,808.63
Cash Discounts to Advertisers		199.35	199.35
Commission on Journal Advertising		5,843.57	5,843.57
Postage	3,037.59	924.64	3,962.23
Committee and Meeting Expense (Exhibit C-1)	49,946.40		49,946.40
Custodian Fees—Investments	248.75		248.75
Directories and Clipping Service	604.73		604.73
Dues and Subscriptions	926.34		926.34
Employees' Pension Plan Contributions	8,000.00		8,000.00
Equipment Purchases, Rentals and Repairs in Lieu of Depreciation	680.93		680.93
General Expense	113.84		113.84
Insurance—Blue Cross	657.72		657.72
Insurance—General	583.32		583.32
Missouri State Medical Foundation	1,317.23		1,317.23
Office Rent and Light	4,587.68		4,587.68
Professional Fees	6,595.11		6,595.11
Stationery, Printing and Office Supplies	4,224.63		4,224.63
Student Awards	225.00		225.00
Taxes—Payroll and Personal Property	1,456.19		1,456.19
Telephone and Telegraph	3,010.11		3,010.11
Traveling Expenses—Executive Secretary	422.11		422.11
Traveling Expenses—Field Secretary	2,377.71		2,377.71
Traveling Expenses—Executive Assistant	406.44		406.44
Traveling Expenses—Administrative Assistant	1,014.20		1,014.20
Total Expenses	$138,897.40	$61,006.82	$199,904.22
Excess of Income or (Expenses)	$ 17,103.32	($19,601.38)	($ 2,498.06)

Exhibit C-1

Missouri State Medical Association
Statement of Committee and Meeting Expenses for the Year 1965

Annual Session		$14,290.55
Council Meetings and Councilors' Expenses		6,583.98
Delegates to A.M.A.		5,193.29
Public Service		14,151.39
Woman's Auxiliary		2,252.21
Special Expenses for Candidacy of Durward G. Hall, M.D. for President Elect of A.M.A. and Entertainment and Reception Expenses for Mrs. Betty Sutter, President Elect, A.M.A. Woman's Auxiliary		6,119.77
Committees:		
Cancer	$ 21.25	
Civil Defense	182.57	
Cardiac	178.07	
Laboratory Medicine	125.00	
Maternal Welfare	137.52	
Mental Health	141.41	
Publications	20.00	
Rural Health	197.50	
Scientific and Postgraduate Work	227.65	
Tuberculosis	70.74	
Venereal Disease Control	53.50	1,355.21
Total		$49,946.40

Exhibit C-2

Missouri State Medical Association
Statement of Investments December 31, 1965

Description	*Bonds at Par*	*Cost*
U. S. Treasury 2½% Bond 6/15/67-62	$10,000.00	$ 10,000.00
U. S. Treasury 2½% Bond 12/15/68-63	10,000.00	10,000.00
U. S. Treasury 2½% Bond 6/15/69-64	10,000.00	10,000.00
U. S. Treasury 2½% Bond 3/15/70-65	10,000.00	10,000.00
U. S. Treasury 2½% Bond 3/15/71-66	5,500.00	5,493.98
U. S. Treasury 3⅞% Bond 5/15/68	10,000.00	10,000.00
U. S. Treasury 4 % Bond 10/ 1/69	25,000.00	25,017.69
Pacific Gas & Electric 4½% Bonds 6/1/90	5,000.00	5,000.00
Central and Southwest Corp. 200 Shares		6,345.62
Johns Mansville Corp. 100 Shares		5,582.34
Morgan Guarantee Trust Co. of N. Y. 61 Shares		5,161.93
Standard Oil of California, 105 Shares		5,045.94
Union Carbide Corp., 74 Shares		4,935.37
Total		$112,582.87

Exhibit D

Missouri State Medical Association
Dues Receivable and Membership by Societies
December 31, 1965

MEMBERSHIP

Societies	*Junior*	*Active*	*Honor*	*Total*	*Unpaid Dues*
Andrew		4	1	5	
Audrain	1	17	1	19	
Barton-Dade		7		7	
Benton			1	1	
Boone	27	111	2	140	
Buchanan	5	77	12	94	$ 415.00
Butler-Ripley-Wayne	1	35		36	
Callaway	1	17	2	20	
Cape Girardeau	2	49	5	56	15.00
Carter-Shannon		1		1	
Chariton-Macon-Monroe-Randolph		20	3	23	
Clay	10	52	1	63	55.00
Clinton	1	4		5	
Cole	4	40	4	48	
Cooper	2	10		12	
Dallas-Hickory-Polk		6	2	8	
Dunklin	1	16	4	21	55.00
Franklin-Gasconade-Warren	2	27		29	
Grand River	2	39	4	45	110.00
Greene	8	147	11	166	
Henry		10	2	12	
Howard	2	5		7	
Jackson	78	637	118	833	195.00
Jasper	3	56	5	64	
Jefferson		14	2	16	
Johnson		11	1	12	
Lafayette-Ray	1	23		24	55.00
Lewis-Clark-Scotland		2		2	
Lincoln-St. Charles	11	25		36	30.00
Marion-Ralls-Shelby	2	23	4	29	
Mid-Missouri		25	1	26	
Miller		2		2	
Mineral Area	2	29	4	35	
Moniteau		3	1	4	
Montgomery		4		4	
Morgan		4		4	
Northwest Mo.		16	2	18	55.00
North Central	2	10	1	13	
Ozarks	2	40	8	50	
Pemiscot		16	1	17	
Perry-Ste. Genevieve		10	1	11	
Pettis	3	25	3	31	
Pike	3	6	1	10	
Platte		5	1	6	
St. Louis City	192	1,074	94	1,360	$1,297.50
St. Louis County	29	391	37	457	
Saline	1	13	2	16	
Semo	1	30	3	34	
South Central	2	16	2	20	
Webster		3		3	
West Central	6	27	7	40	
Totals	407	3,234	354	3,995	$2,282.50 (A)

(A) Delinquent dues of members at December 31, 1965 carried at the request of local societies.

CLASSIFIED ADS

FOR SALE—Brand new pediatric examining-treatment table with built-in scale, examining table, Jones BMR, Cardiotron ECG machine, Burroughs Sensimatic bookkeeping machine, ideal for Medical Group or Clinic, multiple phone, central dectaphone with four hand sets, cold quartz mercury treatment lamp, American Optical Projecto-chart, Ritter motor driven hydraulic examining and Proctology table. Phone—MIssion 7-5150, St. Louis, Mo.

WANTED—General Practitioner to associate in Group Practice. Modern office facilities and accredited hospital. Adequate guaranteed income to start and increases leading to full partnership. Contact Eugene B. Robichaux, M.D., Excelsior Springs, Mo.

ASSOCIATE WANTED—Well established Internist practicing in mid-town St. Louis Medical Building—specializes in cardio-pulmonary diseases, is looking for an associate. Rapid partnership opportunity so that retirement can be accomplished within a year or so. Must have good medical schooling with special training in cardiology and liking for diseases of chest. For further information, contact Box 323, c/o Missouri State Medical Association, 634 N. Grand Blvd., St. Louis, Mo. 63103.

WANTED—INTERNIST, Board eligible or Certified. To be associated with twelve man specialty group; salary open; no investment; early partnership; progressive city of 35,000 in central Texas. Write J. D. Wilson, M.D., Kings Daughters Clinic, Temple, Texas.

WANTED—Associate or partner in large general practice—fulfilling and rewarding. Starting income $2,000 monthly. For further information write Box 322, c/o Missouri State Medical Association, 634 N. Grand Blvd., St. Louis, Mo. 63103.

AVAILABLE IMMEDIATELY—The office of Dr. John M. Canella, M.D., 707 Broadway, Hannibal, Missouri, together with all equipment, laboratory facilities, four treatment rooms; floor space approximately 2,200 feet; new building, ultra-modern equipment. Dr. Canella died September 16, 1965, after 17 years of highly successful general practice in Hannibal. Nurse, office staff and personnel available.

Address all inquiries to: Mrs. Jacqueline Canella, c/o Walter G. Stillwell, Attorney at Law, 108 North Third Street, Hannibal, Missouri. Phone 314-221-0315.

FOR SALE—Bucky table; film bin, cassette storage area and waste bin for X-ray dark room; Birtcher EKG; Proctoscope and new Anoscope; Set-up for D & C; Miscellaneous supplies and surgical instruments; Coleman Spectrophotometer, new. Contact William W. Bradley, M.D., 120 N. Rollins, Centralia, Missouri 65240.

GENERAL PRACTICE VACANCY exists in a town of approximately 25,000. Well established for over 15 years. Gross exceeds $40,000. Hospital privileges available and will introduce if desired. Building and equipment available. Write Box 320, c/o Missouri State Medical Association, 634 N. Grand Blvd., St. Louis, Mo. 63103.

INTERNIST—for 5-man department in busy and steadily growing northcentral Kansas 13-member multispecialty group. Partnership after salary for two years. Board eligible or Certified. Contact, Gerald R. Arnold, Business Manager, Gelvin-Haughey Clinic, Concordia, Kansas.

WANTED—General Practitioner or Internist to practice in large mental hospital. $12,000 and up. Contact Fulton State Hospital, Dr. Donald B. Peterson (Col. U.S.A. Retired), Supt., Fulton, Missouri.

ATTRACTIVE SPACE to share, including own consultation room, 4511 Forest Park, St. Louis, Mo. Telephone —FO 7-4700.

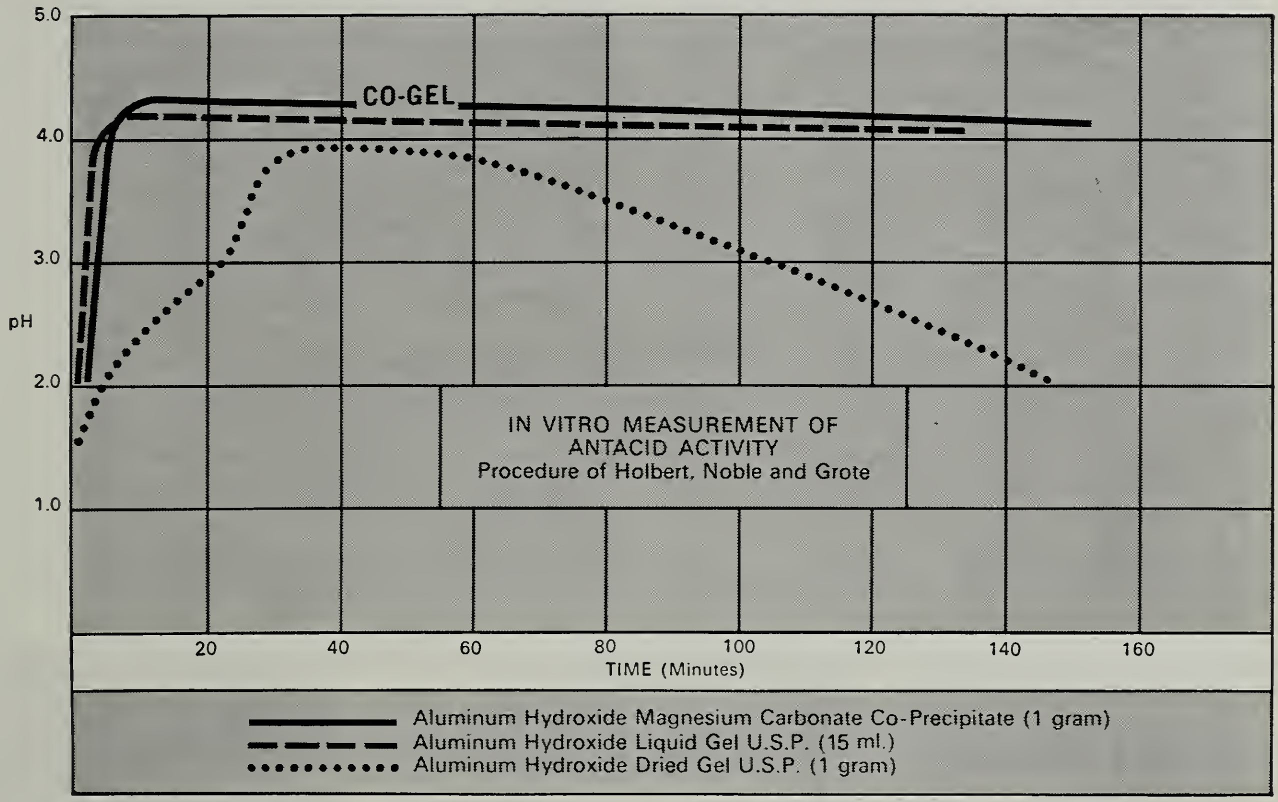
WANTED—Assistant for Industrial Group, prefer G.P. with surgical experience or General Surgeon. Large metropolitan area in Missouri. Regular hours. For further information write Box 324, c/o Missouri State Medical Association, 634 N. Grand Blvd., St. Louis, Missouri 63103.

FOR SALE—Wappler cold cautery with accessories. Contact Box 326, c/o Missouri State Medical Association, 634 N. Grand Blvd., St. Louis, Mo. 63103.

PSYCHIATRIC RESIDENCIES—July 1, 1966, 600 bed psychiatric hospital with active out-patient department for adults and children. Intensive training program directed toward Board certification. NIMH grant of $12,000 annually to General Practitioner or physicians with four or more years experience in other than psychiatry. Write to: Dr. W. C. Brinegar, Superintendent, Mental Health Institute, Cherokee, Iowa.

CO-GEL

THE NEW ANTACID



Holbert, J. M., Noble, N., and Grote, I. W.—Jnl. Amer. Pharm. Assoc. (Sci. Ed.) 37,292 (1948).

Now, an antacid tablet with the effectiveness of a liquid!

CO-GEL is not just another antacid, but rather it's an entirely *new antacid compound* for gastritis, hyperacidity and peptic ulcers. It is an Aluminum Hydroxide formulation with Magnesium Carbonate Co-Precipitate. The Co-Precipitate, a new chemical, gives CO-GEL Tablets the speed of action and the duration of a liquid antacid.

The above chart compares the antacid action of the COGEL Tablet formula with both liquid and dry $Al(OH)_3$. Notice that CO-GEL neutralizes acid faster than $Al(OH)_3$ dried gel tablets and has a prolonged buffering action. The CO-GEL curve parallels that of liquid $Al(OH)_3$.

Liquid CO-GEL, containing the Co-Precipitate, is also available. CO-GEL is reasonably priced to the patient. Availability: CO-GEL Tablets (bottles of 100 and 1,000) CO-GEL Liquid (pints and gallons).

For complete information and samples, write to Dept. MM-100.

FORMULA

Each CO-GEL Tablet, and teaspoonful of CO-GEL Liquid, contains 330 mg. of Aluminum Hydroxide Magnesium Carbonate Co-Precipitate. Tablets have a chewable base. Both forms are mint flavored.

CONTRAINDICATIONS

None.

DOSAGE

For relief of hyperacidity, peptic ulcers or gastritis, chew one tablet (or take one teaspoonful). Repeat in 1 hr. if necessary.

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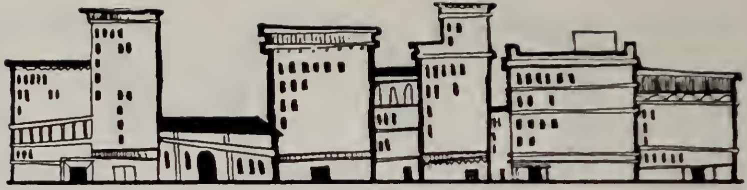
From the Medical Schools



UNIVERSITY OF MISSOURI

Recent advances in neurology will be discussed at a conference March 25-26 at the Kansas City General Hospital and Medical Center. Physicians, nurses, physiotherapists, speech therapists, and others interested in the area of neurology have been invited to attend the conference, for which there will be no registration fee. The guest faculty will be Dr. Labe C. Scheinberg, professor and co-chairman of the Department of Neurology at Albert Einstein College of Medicine, New York; and Dr. Darrell S. Buchanan, chief of Neurology Service, William Beaumont General Hospital, U. S. Army, El Paso, Tex. Also on the faculty will be members of the General Hospital and Medical Center staff at Kansas City who hold academic appointments with the University of Missouri School of Medicine.

James M. A. Weiss, M.D., professor and chairman of the Department of Psychiatry has been appointed chairman of a newly-established national Committee on Professional Training in Mental Health sponsored by the American Public Health Association. The new committee has been set up to develop and publish a guide for advanced training in mental health for professional people.

Dr. James O. Davis, heart research specialist with the National Heart Institute, will join the University of Missouri faculty as professor and chairman of the department of physiology effective July 1. Dr. Davis, 49, has been chief of the section of experimental cardiovascular diseases at the Institute since 1957 and previously was a member of the Temple University faculty and spent three years as visiting professor of physiology at Johns Hopkins University. He had been on editorial boards of Circulation Research and Endocrinology for three years. Dr. Bertis A. Westfall, who has been serving as acting chair-

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brand of
NYLIDRIN HCl
increases blood flow...

IN CEREBROVASCULAR INSUFFICIENCY
leading to such symptoms as mental confusion, diplopia, vertigo and lightheadedness.

IN PERIPHERAL VASCULAR DISEASES
where ischemia causes pain, spasm, ache, intermittent claudication; also coldness, numbness or ulcera of extremities.

man of the physiology department, will give full time to the Department of Pharmacology which he heads.

ST. LOUIS UNIVERSITY

Dr. Denis Cavanagh has been appointed professor and chairman of the Department of Gynecology and Obstetrics at the School of Medicine and chief of gynecology and obstetrics at the St. Louis University Hospitals. Dr. Cavanagh, who is professor of gynecology and obstetrics at the University of Miami School of Medicine and chief of gynecology and obstetrics at Jackson Memorial Hospital, Miami, will assume the new post at St. Louis University on April 1. Dr. Cavanagh will succeed Dr. Thomas M. Mier who has served as chairman of the Department since 1951. Dr. Mier will continue as a member of the School of Medicine faculty.

The Edward A. Doisy Department of Biochemistry, headed by Dr. Robert E. Olson, has received research and training grant awards from the United States Public Health Service and National Science Foundation exceeding $1,000,000. Largest of the new U.S.P.H.S. awards supporting the departmental research is a program project grant totaling $563,134. The new award supports a group of related research projects which permit the exploration of the genetic regulatory function of the fat soluble vitamins and steroid hormones.

The St. Louis University Medical Alumni Association will sponsor a reception honoring alumni and faculty members who are participating in the Missouri State Medical Association's annual session at the Muehlebach Hotel, Kansas City. The reception will be held in Picardy Annex on Tuesday, March 29 from 5 to 7 p.m.

WASHINGTON UNIVERSITY

A memorial service for Dr. Joseph Erlanger was held in January by Washington University School of Medicine. Dr. Erlanger, Professor Emeritus of Physiology at the time of his death in December, 1965, was a faculty member since 1910. He served as Head of the Department of Physiology until his retirement in 1946. In 1944 he shared the Nobel Prize for Physiology with the late Dr. Herbert S. Gasser for their work on the function of individual nerve threads.

Dr. Thomas H. Burford, Professor of Clinical Thoracic Surgery, was elected President of the Society for Thoracic Surgeons at the society's annual meeting in January.

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where decreased blood flow results in hearing loss (sudden onset), tinnitus, or vertigo.

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decreases resistance in arteries and arterioles in skeletal muscle, in the brain, and possibly in the eye and inner ear • increases cardiac output (minute stroke volume) • maintains mean arterial blood pressure • enhances blood flow in ischemic tissues • well tolerated, with rapid and sustained response • economical

Dosage: ½ to 1 tablet three or four times a day is the usual effective dosage; increased, if necessary, to 2 tablets three or four times a day.
Side Effect: Occasional palpitation. **Precautions:** Use with caution in the presence of a recent myocardial lesion, paroxysmal tachycardia, severe angina pectoris and thyrotoxicosis.
Contraindication: Acute myocardial infarction.
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in which vasospasm and impaired circulation are factors.

Available in 6 mg. scored tablets, and 5 mg. per cc. parenteral solution.

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Each tablet provides
6 mg.
NYLIDRIN HCl

County Society News

FIRST DISTRICT

COUNCILOR
JOSEPH FISHER, M.D., ST. JOSEPH

Grand River Medical Society

Thirty-four members and guests of the Grand River Medical Society and Auxiliary met at the Strand Hotel in Chillicothe, January 13, 1966.

The scientific session consisted of a well presented and well received discussion of "Hyponatremia" by Dr. Nathan Galloway, Associate Professor of Medicine at the University of Missouri School of Medicine.

Delegates to the MSMA Annual Session in Kansas City were selected and are as follows:

County	*Delegate*	*Alternate Delegate*
Caldwell	Frank R. Daley	Howard Carter
Carroll	John H. Platz	Erroll W. Allen
Davies	Larry Dowell	Edward M. Nixon
DeKalb	James Sweiger	None
Grundy	Chester Clark	Albert D. Cross
Harrison	Willard Ellsworth	Marrian Gearhart
Linn	John Dixon	Robert W. Smith
Livingston	Donald Dowell	George Mandler

The Grand River Medical Society again plans to have a hospitality room at the March meeting of the MSMA. We hope all of our friends will stop by for some North Central Missouri hospitality and to renew old friendships.

Albert D. Cross, M.D., *Secretary*

Buchanan County Medical Society

The annual meeting and installation of officers was held at Hotel Robidoux on December 1. Eighty physicians and their ladies attended the dinner and meeting. Dr. Herbert C. Senne, retiring President, presided and served as installing officer. Dr. Senne announced the establishment of the Buchanan County Medical Society Nurse Scholarship Fund. The fund of $6,000 will be administered by Missouri Western Junior College, and will be used to provide tuition for a student nurse for three years in Buchanan County.

Officers installed at the meeting were: President, Dr. William Redmond; President-Elect, Dr. Irwin Rosenthal; Vice President, Dr. Berwyn H. Moen; Secretary, Dr. John L. Mothershead; Treasurer, Dr. Robert W. Kieber; Censor, Dr. Scott C. Benson; MSMA Delegate, Dr. Ernest E.

(Continued on page 227)

DEPROL®

**meprobamate 400 mg. +
benactyzine hydrochloride 1 mg.**

Indications: 'Deprol' is useful in the management of depression, both acute (reactive) and chronic. It is particularly useful in the less severe depressions and where the depression is accompanied by anxiety, insomnia, agitation, or rumination. It is also useful for management of depression and associated anxiety accompanying or related to organic illnesses.

Contraindications: Benactyzine hydrochloride is contraindicated in glaucoma. Previous allergic or idiosyncratic reactions to meprobamate contraindicate subsequent use.

Precautions: *Meprobamate*—Careful supervision of dose and amounts prescribed is advised. Consider possibility of dependence, particularly in patients with history of drug or alcohol addiction; withdraw gradually after use for weeks or months at excessive dosage. Abrupt withdrawal may precipitate recurrence of preexisting symptoms, or withdrawal reactions including, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, the dose should be reduced and operation of motor vehicles or machinery or other activity requiring alertness should be avoided if these symptoms are present. Effects of excessive alcohol may possibly be increased by meprobamate. Grand mal seizures may be precipitated in persons suffering from both grand and petit mal. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

Side effects: Side effects associated with recommended doses of 'Deprol' have been infrequent and usually easily controlled. These have included drowsiness and occasional dizziness, headache, infrequent skin rash, dryness of mouth, gastrointestinal symptoms, paresthesias, rare instances of syncope, and one case each of severe nervousness, loss of power of concentration, and withdrawal reaction (status epilepticus) after sudden discontinuation of excessive dosage.

Benactyzine hydrochloride—Benactyzine hydrochloride, particularly in high dosage, may produce dizziness, thought-blocking, a sense of depersonalization, aggravation of anxiety or disturbance of sleep patterns, and a subjective feeling of muscle relaxation, as well as anticholinergic effects such as blurred vision, dryness of mouth, or failure of visual accommodation. Other reported side effects have included gastric distress, allergic response, ataxia, and euphoria.

Meprobamate—Drowsiness may occur and, rarely, ataxia, usually controlled by decreasing the dose. Allergic or idiosyncratic reactions are rare, generally developing after one to four doses. Mild reactions are characterized by an urticarial or erythematous, maculopapular rash. Acute nonthrombocytopenic purpura with peripheral edema and fever, transient leukopenia, and a single case of fatal bullous dermatitis after administration of meprobamate and prednisolone have been reported. More severe and very rare cases of hypersensitivity may produce fever, chills, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, anaphylaxis, stomatitis and proctitis. Treatment should be symptomatic in such cases, and the drug should not be reinstituted. Isolated cases of agranulocytosis, thrombocytopenic purpura, and a single fatal instance of aplastic anemia have been reported, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity has been reported, usually after excessive meprobamate dosage. Suicidal attempts may produce lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

Dosage: Usual starting dose, one tablet three or four times daily. May be increased gradually to six tablets daily and gradually reduced to maintenance levels upon establishment of relief. Doses above six tablets daily are not recommended even though higher doses have been used by some clinicians to control depression and in chronic psychotic patients.

Supplied: Light-pink, scored tablets, each containing meprobamate 400 mg. and benactyzine hydrochloride 1 mg.

Before prescribing, consult package circular.

Wallace Laboratories / *Cranbury, N. J.*

CD-6405

County Society News (Cont'd.)

Wadlow; Alternate Delegates, Drs. Thompson E. Potter and Richard V. Riddell; Member Committee on Public Policy, Dr. Henry C. Willumsen; Trustee, Dr. Clement C. DuMont; Executive Secretary Committee, Dr. Senne.

John L. Mothershead, M.D., *Secretary*

Forty-five physicians attended the January 5 meeting of the Buchanan County Medical Society at the Hotel Robidoux. A social period and dinner preceded a business session and scientific program.

Dr. Richard V. Riddell served as moderator for a clinical-pathological conference in which members of the Society participated. Dr. Evan A. Peterson gave the case history; Dr. Ernest E. Weinand outlined the surgical procedures involved; Dr. Riddell discussed the laboratory findings and showed slides in the case presented.

John L. Mothershead, M.D., *Secretary*

SECOND DISTRICT

COUNCILOR
LYSLE M. BACH, M.D., HANNIBAL

Chariton-Macon-Monroe-Randolph County Medical Society

The Chariton-Macon-Monroe-Randolph County Medical Society and Auxiliary held their annual Christmas Party at the Strand Hotel in Chillicothe on December 9, 1965. There were 37 members and 13 guests in attendance. Conspicuous by their absence were Mr. and Mrs. Ray McIntyre who have become a traditional part of the Christmas Party. Among our guests were Dr. Paul Whitener, President of MSMA, and Mrs. Whitener; Dr. and Mrs. E. W. Allen of Columbia; and Dr. and Mrs. Sherwood Baker also of Columbia. Short speeches were given by Drs. Whitener, Allen, Baker and Mrs. Ralph Bohnsack of Brookfield, President of the Auxiliary to MSMA.

Dr. George Mandler of Chillicothe, President of the Grand River Medical Society for 1965, presented the gavel to Dr. Joe Gale of Chillicothe, President-Elect. Dr. Donald Dowell presented Dr. Mandler with a plaque from the Chariton-Macon-Monroe-Randolph County Medical Society in appreciation for his outstanding job as President.

The Auxiliary members from Chillicothe were in charge of decorations and program and did a beautiful job.

No business meeting was held.

Albert D. Cross, M.D., *Secretary*

SIXTH DISTRICT

COUNCILOR
ROLLA B. WRAY, M.D., NEVADA

West Central Missouri Medical Society

The West Central Missouri Medical Society met in Nevada, January 13, 1966. There was the customary social hour and dinner, followed by the scientific program, a discussion of "Disc Disease," by Dr. Howard McAlhaney, Springfield. An excellent paper was well presented and was both enjoyable and stimulating to all members present.

Following the scientific program, the business meeting of the Society was called to order by Dr. W. S. Love, retiring President. Dr. Love thanked the Society for the cooperation he had received as President in the year 1965 and presented the new President, Dr. Robert Magee, El Dorado Springs, who conducted the remainder of the meeting.

The minutes of the last meeting were read and approved. The annual report of the Treasurer was presented and approved. The report of the correspondence was also presented and approved. The Secretary then presented a summary of the report of the Council meeting and notified the members of the Cancer Consultation service available to them at MUMC. He also presented the letter from the Missouri State Medical Foundation regarding contributions to this organization. It was voted that the Society would contribute $100.00 to the Missouri State Medical Foundation. The Credentials Committee reported on two applications for membership. The application of Dr. Ruth Seevers of Osceola was presented with the recommendation that she be voted an honorary member in view of her 59 years of practice in Osceola. The recommendation of the committee was accepted. The application of Dr. Jerome Thies of Osceola was given a tentative approval, final approval to be made at the February meeting after Dr. Thies has received his Missouri license. Dr. Thies will be a junior member.

The 6th District Councilor, Dr. Rolla Wray, made some additional comments about the last Council meeting and presented to the Society the idea of a meeting to be held in May of this year, at which time there would be a discussion of Part B of the Medicare Act by an official of the Medicare organization. Dr. Wray suggested

(Continued on page 229)

Taking an ECG?

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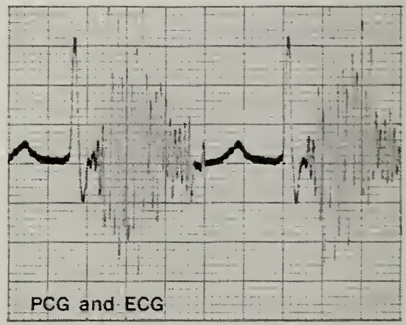
Increase your knowledge of cardiac condition with the valuable *additional* information provided by heart *sound* recordings. With this new Sanborn Heart Sound Amplifier clipped to the front of your 500 VISO* you can immediately obtain clear, sharply defined, graphic records — which identify the *location, intensity* and *duration* of the sounds and murmurs within the cardiac cycle. Even in the presence of complex arrythmias, marked tachycardias and other conditions which may complicate or prevent accurate auscultation by stethoscope alone, a definitive record of diagnostic quality can be obtained with this new instrument. Frequency cutoffs of 50, 100, 250 and 500 cps can be switch-selected to separate murmurs which might otherwise be masked by other heart sounds. As an electronic stethoscope, all sounds from 50 to 2000 cps can be heard at normal or amplified levels.

This precise Sanborn amplifier has convenient controls for recording the ECG, PCG, or ECG superimposed on the PCG . . . Cutoff Frequency . . . Audiophone Volume . . . and Sensitivity. Complete with contact microphone, cable and Audiophone (for use as an electronic stethoscope), Model 1506A is $450 f.o.b. Waltham, Mass. (continental U.S.). For more information, use the convenient coupon below. Sanborn Division, Hewlett-Packard Company, Waltham, Mass. 02154. In Europe, Hewlett-Packard S.A., 54 Route des Acacias, Geneva.

**or almost any other ECG with a 50 mm/sec. chart speed.*



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County Society News (cont'd)

that invitations for this meeting be sent to the doctors in the southwest section of Missouri. Tentative approval of this program was given with a final discussion to be held at the February meeting with regards to time and place of this meeting.

The Program Committee announced that the next meeting of the Society would be at Harrisonville, on February 10. Since there is no conflict between the annual MSMA meeting and the March meeting of the Society, the March meeting will be held as usual.

There being no further business to come before the Society, the meeting was adjourned.

Roy W. Pearse, Jr., M.D., *Secretary*

OFFICIAL NOTICE

Proposed Amendment to Article V, MSMA Constitution

At the 1965 Annual Session of the Missouri State Medical Association the President, Leonard T. Furlow, M.D., recommended that the immediate Past President of the Association serve as a member of the Council for the year following his term of office as President. The recommendation was approved by the Reference Committee on Constitution and By-Laws and by the House of Delegates. Since this proposal requires a change in the Constitution and any such Constitutional amendment must lie on the table for one year before final action is taken, this will constitute formal notice that the following proposal will be presented to the 1966 Annual Session of the Association for final action:

"Amend the Constitution, 1965 Revision, page 3, Article V, line 7, after the comma, following the words President-Elect by inserting the following words: 'immediate Past-President.'"

Memo to all in the Medical Profession

A chilled bottle of 7-Up can really help brighten a patient's day. Seven-Up is a pure, wholesome beverage that is just as famous for its consistent high quality and uniformity as it is for its clean, fresh lemon-lime flavor. All of the 7-Up ingredients are clearly listed on the bottle for all to see. Seven-Up is made in plants that are as clean and sparkling as 7-Up itself.

Seven-Up quenches thirst quickly and completely by restarting the natural moisture in the mouth and throat. We sincerely hope you enjoy 7-Up and speak well of it for your friends and patients.

MISSOURI SEVEN-UP BOTTLERS ASSN.

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St. Louis
Springfield
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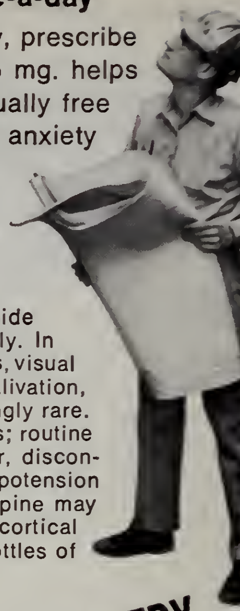
Fayetteville, Ark.
Paragould, Ark.
Cedar Rapids, Ia.
Shenandoah, Ia.

7up



Blueprint for dealing with tension due to stress — Prolixin — once-a-day

For the patient who must be on the job mentally as well as physically, prescribe Prolixin. The prolonged tranquilizing action of as little as one or two mg. helps him cope with tension all day long. Markedly low in toxicity and virtually free from usual sedative effects, Prolixin is effective in controlling both anxiety associated with somatic disorders and anxiety due to environmental or emotional stress. Patient acceptance is good — because Prolixin is low in cost, low in dosage and low in sedative activity. Prescribe Prolixin.

Side Effects, Precautions, Contraindications: As used for anxiety and tension, side effects are unlikely. Reversible extrapyramidal reactions may develop occasionally. In higher doses for psychotic disorders, patients may experience excessive drowsiness, visual blurring, dizziness, insomnia (rare), allergic skin reactions, nausea, anorexia, salivation, edema, perspiration, dry mouth, polyuria, hypotension. Jaundice has been exceedingly rare. Photosensitivity has not been reported. Blood dyscrasias occur with phenothiazines; routine blood counts are recommended. If symptoms of upper respiratory infection occur, discontinue the drug and institute appropriate treatment. Do not use epinephrine for hypotension which may appear in patients on large doses undergoing surgery. Effects of atropine may be potentiated. Do not use with high doses of hypnotics or in patients with subcortical brain damage. Use cautiously in convulsive disorders. **Available:** 1 mg. tablets. Bottles of 50 and 500. For full information, see Product Brief.

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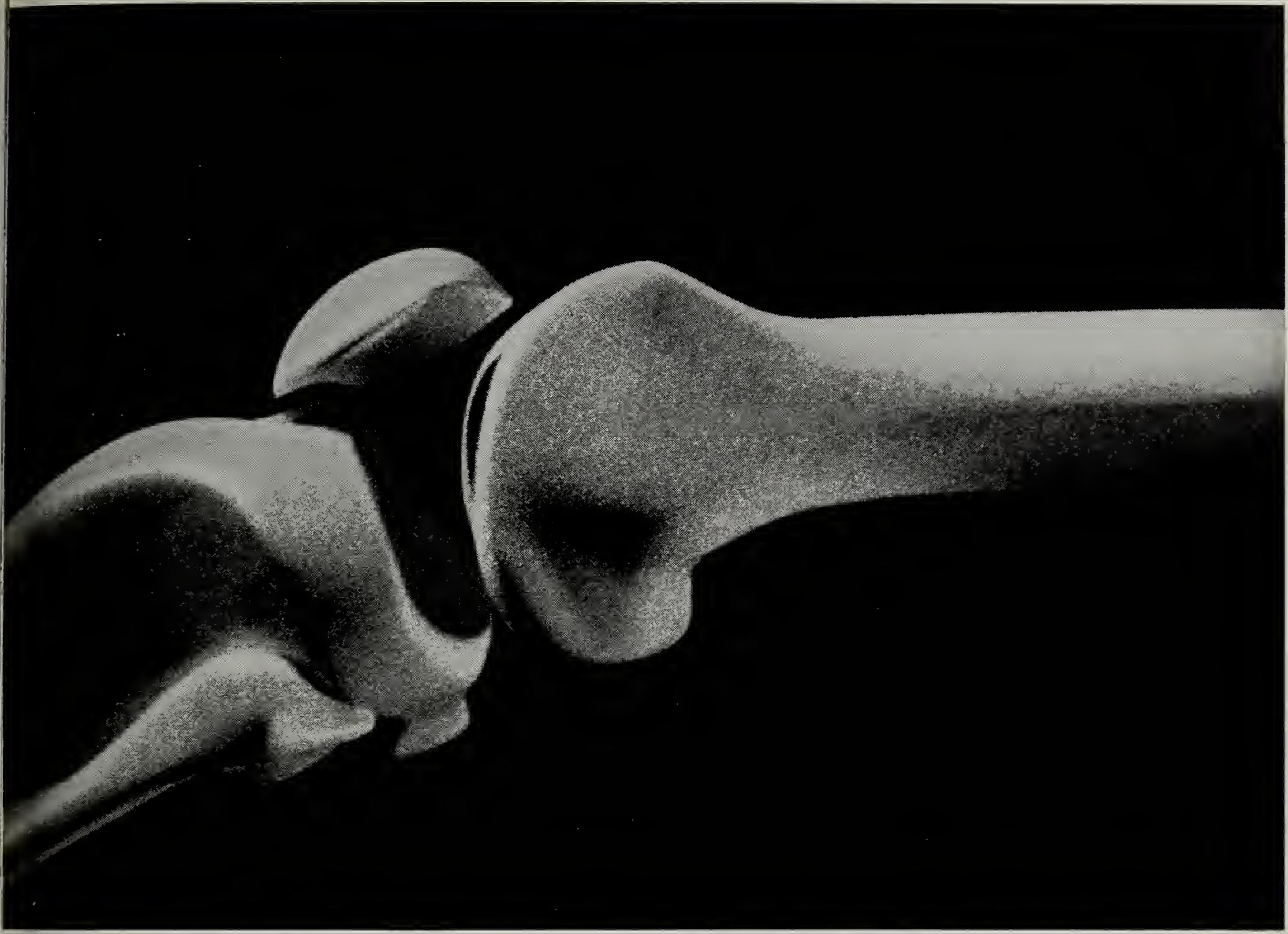

Butazolidin® alka

phenylbutazone	100 mg.
dried aluminum hydroxide gel	100 mg.
magnesium trisilicate	150 mg.
homatropine methylbromide	1.25 mg.

Usually works within 3 to 4 days in osteoarthritis

The trial period need not exceed 1 week. In contrast, the recommended trial period for indomethacin is *at least 1 month.*

That's why it's logical to start therapy with Butazolidin alka—you'll know quickly whether or not it works. And usually, it will.

A large number of investigators have reported major improvement in about 75% of cases. Some patients have gone into remission. Relief of stiffness and pain may be followed quickly by improved function and resolution of other signs of inflammation. And Butazolidin alka is well tolerated, especially since it contains antacids and an antispasmodic to minimize gastric upset.

Contraindications
Edema, danger of cardiac decompensation; history or symptoms of peptic ulcer; renal, hepatic or cardiac damage; history of drug allergy; history of blood dyscrasia. The drug should not be given when the patient is senile, or when other potent drugs are given concurrently. Large doses are contraindicated in patients with glaucoma.

Precautions
Obtain a detailed history and a complete physical and laboratory examination, including a blood count. The patient should be closely supervised and should be warned to report immediately fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools. Make regular blood counts. Use greater care in the elderly.

Warning
If coumarin-type anticoagulants are given simultaneously, watch for excessive increase in prothrombin time. Pyrazole compounds may potentiate the pharmacologic action of sulfonylurea, sulfonamide-type agents and insulin. Carefully observe patients receiving such therapy.

Adverse Reactions
The most common are nausea, edema and drug rash. Hemodilution may cause moderate fall in red cell count. The drug may reactivate a latent peptic ulcer. Infrequently, agranulocytosis, generalized allergic reaction, stomatitis, salivary gland enlargement, vertigo and languor may occur. Leukemia and leukemoid reactions have been reported but cannot definitely be attributed to the drug. Thrombocytopenic purpura and aplastic anemia may occur. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hepatitis, jaundice, and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently.

Dosage
The initial daily dosage in adults is 300-600 mg. daily in divided doses. In most instances, 400 mg. daily is sufficient. When improvement occurs, dosage should be decreased to the minimum effective level: this should not exceed 400 mg. daily, and is often achieved with only 100-200 mg. daily.

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MISSOURI SOCIETY OF MEDICAL TECHNOLOGISTS

Nineteenth Annual Convention

March 26-30, 1966

SATURDAY, MARCH 26

7:00 PM Board of Directors Meeting
Research Hospital
Meyer at Prospect
Auditorium of Student Nurses Residence

SUNDAY, MARCH 27

10:30 AM Business Meeting, MSMT
12:30 PM Lunch, Cafeteria
1:30 PM Continuation of Business Meeting
6:30 PM Buffet Supper, Research Hospital Cafeteria
7:30 PM Board of Directors Meeting MABB
8:00 PM Business Meeting, MABB

SCIENTIFIC SESSIONS

Muehlebach Hotel, Room 471

MONDAY, MARCH 28

8:00 AM Registration
9:00 AM Invocation, Rev. William Beachy
9:05 AM Address of Welcome, President of MABB
Blood Banking in Russia, Victor B. Buhler, M.D.
Lewis System, Perry Morgan, Ph.D.
D^u Factor and Case History, Hilliard Cohen, M.D.
2:00 PM Address of Welcome, Rena Parker, MT(ASCP), President, MSMT
2:05 PM Histochemistry, Dale Smith, M.D.
3:00 PM Coffee Break
3:15 PM Automation and the Education of Medical Technologists
Russell Eilers, M.D.
Mary Jean Rutherford, MT(ASCP)
L'Nora Wells, MT(ASCP)
Thomas Fritzlen, M.D., Moderator

SEROLOGY WORKSHOP

MONDAY, MARCH 28, Room 365

1:00 PM "The VD Problem in Missouri, Do We Have One?"
1:30 PM "Syphilis Serology—Present and Future."
2:10 PM "Factors Affecting the Results of Serologic Tests for Syphilis."
2:30 PM "Controls?"
3:00 PM Coffee Break
3:15 PM "The Syphilis Serology Evaluation Program in Missouri, What Has It Accomplished?"
3:45 PM Panel Discussion

TUESDAY, MARCH 29

9:00 AM Congenital Hemolytic Anemias With Enzymatic Deficiencies
Thomas Walters, M.D.
10:00 AM Coffee Break
10:30 AM The Role of the Partial Thromboplastin Time and Lee-White Clotting Time in the Diagnosis and Therapy of Bleeding Disorders
Margaret B. Scales, M.D.
11:00 AM Laboratory Work-Load Measurement
Adrian Hainline, Jr., Ph.D.

TUESDAY MORNING—INSTRUMENT CALIBRATION WORKSHOP, 9:00-12:00 NOON
University of Missouri at Kansas City
Myron Jorgenson, Ph.D.

1:30 PM Clinical Correlation of Electrolytes
C. Y. Thomas, M.D.

2:30 PM Paper on Microbiology (Subject to be announced)
Mary Ann Pexa, MT(ASCP)

3:15 PM Coffee Break

3:30 PM Medicare and the Laboratory
Victor Buhler, M.D.

WEDNESDAY, MARCH 30

8:30 AM Fungus
Thorkill Jensen, Ph.D.
(a display of various types of fungi will be set up for examination)

10:00 AM Coffee Break

10:30 AM Phenylalanine Panel
The Disease, William McPhee, M.D.
Ultraviolet and Fluorometric Determinations, Max Berenbom, Ph.D.
The Guthrie Test, Carolyn Evans, MT(ASCP)
The Missouri Law, C. G. Leitch, M.D.
Moderator: Lois Brunner, MT(ASCP)

A Los Angeles physician with a sense of humor may be leading his profession out of the morass of esoteric lecture terminology in which most medical conventions bog down. Isaac Sanders, M.D., instructor in radiology at Loma Linda University School of Medicine, is moderator of a three-hour "refresher course" in radiology for physicians attending the school's 34th Alumni Postgraduate Convention March 11 to 17.

The course, titled "Practical Radiology for Practically Everybody," includes lectures by other specialists representing southern California medical schools. Among their subjects, listed in a program just published, are:

—"Arthritis No Longer Gets Me Disjointed," by Dietrich E. Reisch, M.D.
—"Congenital Heart Disease No Longer Makes Me Blue," by Dr. Sanders.
—"Short-cuts to Oblivion in Chest Diagnosis," by Geoffrey A. Gardiner, M.D.
—"An Upper G.I. Series Ain't No Esophagus Study," by Walter L. Stilson, M.D.
—"Every Mediastinal Mass Isn't a Mess," by Erling S. Tobiassen, M.D.

Turning the needle on physicians themselves, Ernest J. Braun, M.D., will speak on "Attending Physicians I Have Known or Non-Patient Problems in Radiation Therapy."

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(tetracycline 250 mg.
triacetyloleandomycin 125 mg.)

Indications: Indicated in the therapy of acute severe infections caused by susceptible organisms and primarily by bacteria more sensitive to the combination than to either component alone. In any infection in which the patient can be expected to respond to a single antibiotic, the combination is not recommended. Signemycin should not be used where a bacteriologically more effective or less toxic agent is available. *Triacetyloleandomycin, a constituent of Signemycin, has been associated with deleterious changes in liver function.* See precautions and adverse reactions.

Contraindications: Contraindicated in individuals who have shown hypersensitivity to any of its components. Not recommended for prophylaxis or in the management of infectious processes which may require more than 10 days of continuous therapy. If clinical judgement dictates therapy for longer periods, serial monitoring of liver function is recommended. Not recommended for subjects who have shown abnormal liver function tests, or hepatotoxic reactions to triacetyloleandomycin.

Precautions and Adverse Reactions: Triacetyloleandomycin, administered to adults in daily oral doses of 1.0 gm. for 10 or more days, may produce hepatic dysfunction and jaundice. Adults requiring 3 gm. of Signemycin initially should have liver function followed carefully and the dosage should be reduced as promptly as possible to the usual recommended range of 1.0 to 2.0 gm. per day. Present clinical experience indicates that the observed changes in liver function are reversible after discontinuation of the drug. Use with caution in lower than usual doses in cases with renal impairment to avoid accumulation of tetracycline and possible liver toxicity. If therapy is prolonged under such circumstances, tetracycline serum levels may be advisable. In long term therapy or with intensive treatment or in known or suspected renal dysfunction, periodic laboratory evaluation of the hematopoietic, renal and hepatic systems should be done. Formation of an apparently harmless calcium complex with tetracycline in any bone forming tissue may occur. Use of tetracycline during tooth development (3rd trimester of pregnancy, infancy and early childhood) may cause discoloration of the teeth. Reversible increased intracranial pressure due to an unknown mechanism has been observed occasionally in infants receiving tetracycline. Glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis and definite allergic reactions occur rarely. Severe anaphylactoid reactions have been reported as due to triacetyloleandomycin. Photosensitivity and photoallergic reactions (due to the tetracycline) occur rarely. Medication should be discontinued when evidence of significant adverse side effects or reaction is present. Patients should be carefully observed for evidence of overgrowth of nonsusceptible organisms including fungi, which occurs occasionally, and which indicates this drug should be discontinued and appropriate therapy instituted. Steps should be taken to avoid masking syphilis when treating gonorrhea.

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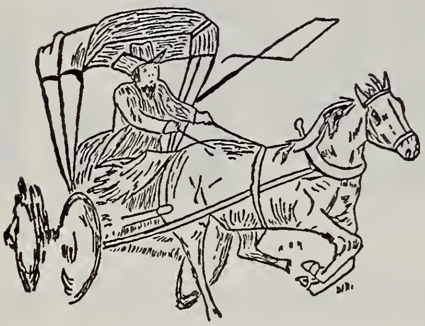
LEO H. POLLOCK, M.D.

Missouri Medicine in Review



FORTY YEARS AGO

A year of construction work finds the vision of a great medical center in New York approaching realization. Ground was broken for the first unit of the center on January 31, 1925. This was the combined building which will house Presbyterian Hospital, Sloane Hospital for Women and the College of Physicians and Surgeons. It will cost upwards of $10,000,000. Adjoining the Presbyterian-Sloane combined hospital is the Harkness Private Patient Pavilion.

Providing the citizens of Sedalia subscribe $200,000 in stock for a new hotel to be erected in Sedalia, J. H. Bothwell of that city has offered to purchase $50,000 in stock in the hotel. In addition, Mr. Bothwell proposes to place in trust $100,000 in liberty bonds and will provide that at the time of his death the entire sum of $150,000 shall be used for the erection of a modern hospital.

At a recent meeting of Benton County Medical Society the following officers were elected for 1926: President, Samuel O. Stratton, Lincoln; Vice President, Joseph M. Edwards, Cross Timbers; Secretary-Treasurer, James A. Logan, Warsaw (re-elected).—The Henry County Medical Society met at the Y.M.C.A. Rooms in Clinton, December 17, 1925. A resolution raising the dues to $9.00 was adopted. The following officers were elected for the ensuing year: President, G. S. Walker, Clinton; Vice President, W. E. Baggerly, La Due; Secretary-Treasurer, S. W. Woltzen, Clinton.

TWENTY-FIVE YEARS AGO

The St. Louis Gynecological Society was host at a joint meeting with the Chicago Gynecological Society and the Kansas City Obstetrical and Gynecological Society at St. Louis on February 15. Dr. E. Lee Dorsett, President of the St. Louis group, presided at the evening meeting.—Dr. E. J. Goodwin, St. Louis, Secretary-Editor Emeritus of the Missouri State Medical Association, died at St. Luke's Hospital, February 18.

Federal Income Tax on all citizens of the United States regardless of their places of residence is 4% on net income in excess of the exemptions and credits. The Revenue Act of 1940 imposes an additional tax, designated as a defense tax, which in general adds 10% to the amount of tax a person otherwise would be required to pay.

The Randolph-Monroe County Medical Society met January 14 in the clubroom of the Hart Cafe, Moberly. Because of bad weather and a great deal of sickness the attendance was small. Those present were Drs. H. C. Griffiths, L. O. Nickell, L. E. Huber, W. M. Kitchen, E. W. Shrader and F. L. McCormick, Moberly; P. V. Dreyer, Huntsville and E. V. Davis, Kirksville.—The Bates County Medical Society met at Butler, January 23. The following officers were elected: President, Dr. Charles A. Lusk, Jr., Butler; Secretary-Treasurer, Dr. A. L. Hanson, Appleton City.

TEN YEARS AGO

An evening dinner meeting of the 8th Councilor District of MSMA was held at the Colonial Hotel in Springfield, Thursday evening, January 19. In spite of the inclement weather, which covered all of Southwest Missouri, 70 physicians attended the important affair.—On Wednesday night, January 18, 64 brave souls, composed of doctors and their wives, braved the elements of nature in the form of freezing rain to attend a joint dinner meeting of the Henry, Johnson, Pettis, Saline and adjacent county medical societies at the Pacific Cafe in Sedalia. The evening festivities began with a social hour, followed by dinner and then the special program.

A dinner meeting of the Chariton-Macon-Randolph-Monroe County Medical Society was held at Woodland Hospital, Moberly, Thursday night, January 12. Among the business matters discussed was the state polio vaccine program. The Society voted to administer, free of charge, state supplied polio vaccine to indigent patients within the specified suggested age limits.

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Illustrations should be glossy prints or drawings in India ink on white paper. They should not be mounted and name of author and figure number should be penciled lightly on the backs. Legends should appear on a separate sheet. Colored illustrations will be used when suitable if author assumes the actual cost.

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Reprint order blanks will accompany proof, which will be sent to authors prior to publication.

All material other than scientific should be received prior to the first of the month preceding month of publication.

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A Key Site of Action of the Protoveratrine A in Salutensin

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The veratrum component of Salutensin acts here (and in the myocardium), initiating "...a reflex fall in blood pressure through a generalized vasodilation and fall in heart rate."[2]

SCHWENK

Council Considers 'Medicare' Problems

The numerous ramifications of Public Law 89-97 (medicare) consumed much of the time of the Council of the Missouri State Medical Association at its meeting on February 12 and 13, 1966. The Council authorized its special Utilization Review Study Committee to continue its work on drafting guidelines which Missouri hospitals might use in setting up utilization review committees. Such committees will be required for all hospitals which participate in the "medicare" program.

Dr. Blaine Z. Hibbard, Chairman of the Study Committee, reported on the group's initial investigation and findings. He noted that the Committee is concerning itself at the present only with hospital utilization review but eventually will have to consider the same subject as it relates to nursing homes and long-term care facilities. The law requires utilization review procedures for them also. Doctor Hibbard said that there is still a question as to the legal liability which utilization review committees and the physicians who serve as members may incur. The question is still being studied by legal counsel of the American Medical Association and the Department of Health, Education and Welfare. It is obvious to all concerned, said Doctor Hibbard, that some sort of safeguards are going to have to be provided if utilization review committees are to function properly.

The Council commended Doctor Hibbard and his Committee for the work to date and approved his suggestion that the State Osteopathic Association, Blue Cross, Blue Shield, General American Life Insurance Company and the State Division of Health be invited to send representatives to future Committee meetings.

Dr. Martin P. Hunter reported that his Committee on Medical Economics held its first meeting to study Title XIX of P.L. 89-97. He said that the State Division of Welfare is already making plans for putting various phases of Title XIX into operation in Missouri. Like the existing Vendor and Kerr-Mills programs, which it will extend or replace, Title XIX must be implemented in each state by state legislation. Doctor Hunter said that since the State Medical Association had endorsed and helped formulate the Vendor and Kerr-Mills programs, the members of his Committee agreed that the Association should maintain close liaison with State officials and actively assist in shaping the new program as it develops. A Committee resolution to that effect was approved by the Council and will be submitted to the House of Delegates.

Dr. George Ulett, Director of the Division of Mental Diseases, outlined the major programs which the Division now has in operation and the plans which it has for the future. He requested Association support for the budget proposals which will be presented to the coming special session of the General Assembly. The Council approved his request and authorized appropriate representatives of the Association to appear as witnesses before legislative committees if needed.

Mr. Tom O'Brien informed the Council that the St. Louis Blue Shield plan has started a study and survey in an effort to determine whether a "prevailing fee" program would be desirable or feasible for this area. He asked Council approval of a resolution endorsing the "prevailing fee" concept. After lengthy discussion the Coun-

(Continued on page 250)

Medical 'Gal Fridays' Plan April Meeting

The Missouri Medical Secretaries and Assistants Society will hold its annual convention at the Elms Hotel in Excelsior Springs on April 16 and 17, 1966. Mrs. Pearl Neal, program chairman, announced that the two-day program will be varied, educational and entertaining.

A discussion of the "Mechanics of Medicare" will highlight the first day. The speakers will be representatives of the Department of Health, Education and Welfare. A medical-legal panel will be presented Sunday and will outline for the secretaries and assistants those areas of concern in the legal liability and responsibility field.

The Medical Secretaries and Assistants organization functions on three levels . . . county, state and national . . . and is endorsed by the American Medical Association. It was formed to provide specialized education and information for those persons working as secretaries or assistants to physicians. (See Editorial on Page 295.)

Mrs. Neal issued an appeal to all doctors to encourage their secretaries and assistants to attend the convention and then take an active part in the organization. "Our goal is to better serve the profession and the public," she said.

Council Meeting (Cont'd)

cil referred the proposed resolution without comment to the Committee on Medical Economics, instructing that group to investigate the subject and report back to the Council with a recommendation.

The Council approved a suggestion that all specialty medicine groups be given more of a voice in the policy and program decisions of the State Medical Association. The Committee on Constitution and By-Laws was instructed to look into the possibility of creating a new standing committee which would represent the specialty groups.

Council members attending the meeting were:

Hector W. Benoit, Jr., M.D., Chairman, 7th District
David N. Kerr, M.D., Vice Chairman, 3rd District
Joseph L. Fisher, M.D., 1st District
Lysle M. Bach, M.D., 2nd District
Robert A. Mayer, M.D., 4th District
James C. Cope, M.D., 5th District
Rolla B. Wray, M.D., 6th District
Doyle C. McCraw, M.D., 8th District
E. A. Stricker, M.D., 9th District
W. D. English, M.D., 10th District
Paul R. Whitener, M.D., MSMA President
Byron M. Stuart, M.D., MSMA President-Elect
John I. Matthews, M.D., MSMA Secretary
Walter T. Gunn, M.D., MSMA Treasurer

The next meeting of the Council was scheduled for Sunday morning, March 27, 1966, preceding the opening of the 1966 Annual Session of MSMA.

This Council report covers only the highlights of the February meeting. The complete official report of Council proceedings is on file in the Executive Office of MSMA and copies have been sent to all members of the Council and to component medical societies.

Area 'Docs' Invited to Annual Spring Symposium

The St. Louis Academy of General Practice is presenting its tenth anniversary Spring Symposium on Sunday, April 24 at the Chase-Park Plaza Hotel in St. Louis. This year this outstanding event is co-sponsored by the American Geriatrics Society with the cooperation of Lederle Laboratories. All physicians throughout the state are cordially invited to attend and to bring their wives for the entertainment which is especially planned for them during the scientific sessions. Registration begins at 9 a.m. and the scientific sessions at 10.

The symposium this year will feature outstanding speakers on corticosteroids and their use in various aspects of the practice of medicine.

The morning sessions will consist of four lectures and a question-answer period. Luncheon will be served in the Khorassan Room and the luncheon speaker will be Max Levin, M.D., clinical professor of neurology at New York Medical College. His topic will be "The Teenager and the New Era in Sex."

The afternoon session will consist of talks on corticosteroids in pediatrics and in allergic emergencies, a question-answer period and a panel discussion on contraindications for corticosteroids.

There is no fee for this outstanding program and it is acceptable for six accredited hours by the American Academy of General Practice.

All doctors throughout Missouri and Illinois will be sent cards announcing this symposium. Be sure to return your card and plan to help make the St. Louis Academy's tenth anniversary a great success!

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ELLIS FISCHEL STATE CANCER HOSPITAL

Alumni and Consulting Staff Meeting

May 14-15, 1966

SATURDAY, MAY 14

10:00 AM	Open House to Cancer Clinical Research Center, 5th and 8th Floor, Ellis Fischel State Cancer Hospital
12:00 NOON	Buffet lunch
1:00 PM	Introduction and Welcome—John S. Spratt, Jr., M.D., F.A.C.S., Chief of Staff, EFSCH and Director, Cancer Research Center
1:15-2:00 PM	William Lijinsky, Ph.D., Associate Professor of Oncology, Chicago Medical School Institute for Medical Research, *Relation of Chemicals to the Induction of Cancer*
2:00-2:15 PM	Questions and Discussion
2:10-2:40 PM	Morgan Berthrong, M.D., Pathologist, Penrose Cancer Hospital, *Emphysema of Lung—Etiological Considerations*
2:40-2:50 PM	Questions and Discussion
2:50-3:10 PM	Coffee
3:10-3:25 PM	Reginald P. Pugh, M.D., Chief of Internal Medicine, EFSCH, *Mechanical Removal of Platelets in the Treatment of Thrombocythemia*
3:25-3:40 PM	Jane Fraenkel-Conrat, Ph.D., Associate Research Biochemist and Director of Laboratories, Cancer Research Center, *Leukocytic Cathepsins in Health and Disease*
3:40-3:55 PM	Hiram C. Polk, Jr., M.D., Assistant Professor of Surgery, University of Miami School of Medicine, *Postsurgically Recurrent Colorectal Carcinoma*
3:55-4:10 PM	Alan M. Londe, M.D., Senior Resident in Surgery, Jewish Hospital of St. Louis, *Management of Obstructing Carcinoma of the Colon*
4:10-4:25 PM	Pun Fai Yuen, M.D., Senior Resident in Surgery, EFSCH, *Management of Malignant Pleural Effusion Secondary to Mammary Carcinomatosis*
4:25-4:40 PM	Kenneth D. Serkes, M.D., Assistant Director, Department of Surgery, Jewish Hospital of St. Louis, *Missouri Cooperative Tumor Registry*
6:00 PM	Social Hour—Annual Dinner (Those desiring reservations should notify Dr. Milford T. Kubin, Medical Superintendent, EFSCH. $6 per person)

SUNDAY, MAY 15

	Moderator—Raul Mercado, Jr., M.D., Professor of Radiology, University of Pittsburgh School of Medicine
9:00-9:15 AM	Robert A. Grummon, M.D., Resident in Surgery, EFSCH, *Radical Cystectomy for Advanced Cancer of the Urinary Bladder*
9:15-9:30 AM	Hugh A. Hanna, M.D., Resident in Surgery, University of Missouri School of Medicine and EFSCH, *Freckle Melanoma of Hutchinson*
9:30:9:45 AM	Richard K. Danis, M.D., St. Louis, *Primary Tumors of the Biliary Tract in Children*
9:45-10:30 AM	Richard H. Jesse, M.D., Surgeon, M. D. Anderson Hospital and Tumor Institute, *Total Laryngopharyngectory with Immediate Repair by Split Thickness Skin Graft*
10:30-10:40 AM	Discussion
10:40-11:00 AM	Coffee
11:00 AM	*Clinical Pathological Conference,* Carlos Perez-Mesa, M.D., Chief of Pathology, EFSCH *Discussant:* John H. Landor, M.D., Associate Professor of Surgery, University of Missouri School of Medicine
12:00 NOON	Business Meeting—Consulting Staff

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Indications: 'Miltown' (meprobamate) is effective in relief of anxiety and tension states. Also as adjunctive therapy when anxiety may be a causative or otherwise disturbing factor. Although not a hypnotic, 'Miltown' fosters normal sleep through both its antianxiety and muscle-relaxant properties.

Contraindications: Previous allergic or idiosyncratic reactions to meprobamate or meprobamate-containing drugs.

Precautions: Careful supervision of dose and amounts prescribed is advised. Consider possibility of dependence, particularly in patients with history of drug or alcohol addiction; withdraw gradually after use for weeks or months at excessive dosage. Abrupt withdrawal may precipitate recurrence of preexisting symptoms, or withdrawal reactions including, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, the dose should be reduced and operation of motor vehicles or machinery or other activity requiring alertness should be avoided if these symptoms are present. Effects of excessive alcohol may possibly be increased by meprobamate. Grand mal seizures may be precipitated in persons suffering from both grand and petit mal. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

Side effects: Drowsiness may occur and, rarely, ataxia, usually controlled by decreasing the dose. Allergic or idiosyncratic reactions are rare, generally developing after one to four doses. Mild reactions are characterized by an urticarial or erythematous, maculopapular rash. Acute nonthrombocytopenic purpura with peripheral edema and fever, transient leukopenia, and a single case of fatal bullous dermatitis after administration of meprobamate and prednisolone have been reported. More severe and very rare cases of hypersensitivity may produce fever, chills, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, anaphylaxis, stomatitis and proctitis. Treatment should be symptomatic in such cases, and the drug should not be reinstituted. Isolated cases of agranulocytosis, thrombocytopenic purpura, and a single fatal instance of aplastic anemia have been reported, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity has been reported, usually after excessive meprobamate dosage. Suicidal attempts may produce lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

Usual adult dosage: One or two 400 mg. tablets three times daily. Doses above 2400 mg. daily are not recommended.

Supplied: In two strengths: 400 mg. scored tablets and 200 mg. coated tablets.

Before prescribing, consult package circular.

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1965-66 at the University of Missouri Medical Center:

A Review

VERNON E. WILSON, M.D., ***Dean and Director***

THE academic year of 1965-66 may well prove to be one of the most significant periods in the history of the four-year School of Medicine. With the Medical Center looking toward its tenth anniversary this fall, programs planned in the past are reaching fruition, and future needs are fast becoming apparent and urgent.

This was the first year in which the new curriculum was in effect for the entire student body, giving students increased freedom in selecting programs tailor-made to their needs, interest and potential. The new program provided students with an opportunity to take elective work on an international basis, to supplement facilities of the Medical Center and its affiliated institutions. A number used this period for study overseas in such countries as Iran, England, Germany and Russia. Others spent their time at medical centers in the U. S., including Mayo's, the University of Rochester and Cleveland Clinic.

This past year was likewise the first in which the required preceptorship program was in full effect for all students in the third and fourth years, providing them with the rare opportunity of observing and participating in the problems and pleasures of the community physician. For the success of this program we owe special thanks to those Missouri physicians who serve as the preceptors.

Academic qualifications of the student body have continued to improve, as exemplified by the students who were selected for the present freshman class. There are more applicants, and generally better qualified ones, than in years past.

For the first time this year an assessment was possible of the location of graduates from the four-year program. Of those who graduated during the years 1956-60 and who now have largely completed their training, half were found to be practicing in Missouri. Approximately 25% of those who had entered practice had done so in Family Practice, the majority of them in smaller communities. This promises that the school indeed will live up to the expectations originally held for it.

FACULTY

The faculty has been further strengthened by a number of major appointments, and new national honors have been received which suggest rather widespread recognition of the school and staff.

Dr. Marion S. DeWeese, Chairman of the Department of Surgery, was selected as the recipient of the Alton B. Jones Distinguished Professorship in Surgery. This is the first endowed Chair in the School of Medicine, and indeed is the first Chair in the University with a substantial endowment to support it. In addition a number of other such endowments have been placed either in the wills of supporters of the University or are in the discussion stage. This is, of course, concrete evidence that the School of Medicine will indeed be able to move forward at a rate commensurate with its sister institutions and marks the fact that its alumni and friends understand that to make a truly great institution out of an excellent one will require not only public support but private support as well.

Dr. William Mayer, who has served for the past five years as Associate Dean, has been selected by Dr. Robert Marston, the new Director of the national program for Heart-Stroke-Cancer, as a Special Assistant to provide counsel and help in the establishment of that new $300,000,000 program. Dr. Mayer will take a leave of absence to spend the next year in Washington, after which he will return to the University of Missouri to resume leadership in the School of Medicine. His selection for this responsible post is an excellent tribute to the qualifications of the faculty members who have gathered at the University and one which we believe to be completely merited by Dr. Mayer's many contributions to the State of Missouri and to the University.

Dr. M. D. Overholser has reached the retirement age for departmental chairmen and will step down to begin full-time teaching as of July 1. Appointed in his stead as Chairman of the Department of Anatomy is Dr. Roland Leeson, a highly qualified anatomist from the University of Iowa. The School of Medicine looks forward to his contributions and stimulating leadership as that department undergoes expansion and movement into the new quarters recently provided.

The Department of Physiology and Pharmacology, which for many years has functioned as a combined unit under the leadership of Dr. B. A. Westfall, will be divided July 1 to form separate departments in accord with the nationally established pattern. Dr. Westfall has chosen to continue the leadership of the Department of Pharmacology, which is his major interest. As Chairman of the Department of Physiology, the school has been extremely fortunate in attracting Dr. James O. Davis who has been for a number of years in the Intramural Clinical Research Program at the National Institutes of Health in Bethesda, Maryland. Dr. Davis is a highly qualified investigator and teacher in the field of cardiovascular research in which the present faculty has highly developed talents and interests.

The problems facing the Medical Center in being sure that each patient receives optimal services and every physician receives prompt answers concerning the patients whom he has referred to the Medical Center led to a search for someone who might serve in a role of Assistant Medical Director. Dr. William C. Allen, known to many for his service as a practitioner in Glasgow, Missouri and as Director of the Section of Chronic Diseases of the Division of Health, joined the School of Medicine on a full-time basis and has been functioning as Assistant Medical Director. For the first time he, along with Dr. A. Sherwood Baker, has been able to meet with many of the local medical societies and to establish much better communications relative to ways in which the school can be of greater service to the profession.

One of the great concerns which has been expressed over the past several years at the national level has been the lack of any way in which an adequate measure could be made of the effectiveness of the changes in health care programs and in health care techniques. Under the leadership of Dr. William D. Bryant a Program Development Unit has been established in the School of Medicine. Its primary assignment is the development of methods by which health care can be measured and through which it might be possible to design more economical and more practical methods of dealing with the growing disproportion between the demand for health care and the supplies of personnel and resources to deliver it. We were happy to be able to attract Dr. David Jones to head the Program Development Unit. Dr. Jones, who was formerly with the Philadelphia Department of Health, is eminently qualified for this position. He brings to the task his experience both in the U. S. Public Health Service and as a private practitioner for a brief period of time. This Unit will be one of key parts of the University's participation in the Heart-Stroke-Cancer Program.

Dr. Hal Bingham, formerly chief of Plastic Surgery and known to many of the practitioners throughout the state, chose to rejoin the faculty after spending a year in private practice in Tulsa. He received an enthusiastic welcome from faculty and students alike since, before leaving, he had been one of the individuals chosen by the student body as the finest clinical teacher for the year. His assistance is basic to the programs of the Multiple Handicap Clinic and the Crippled Children's Service. The School of Medicine feels especially fortunate to have him back on the faculty on a full-time basis.

Dr. Lynn Litton assumed the leadership for Orthopedic Surgery along with Dr. Thomas S. Culley. Dr. Litton served for a number of years at the University of Kansas in the Department of Orthopedic Surgery and again has had a deep and long-term interest in the Crippled Children's Service.

Mr. Samuel Pangburn was appointed as Assistant Director of University Hospital and has applied himself to this task with considerable vigor. He has been a valuable person during this period of crystalization of growth and organizational patterns and has made a tremendous contribution in the short period of time he has been here.

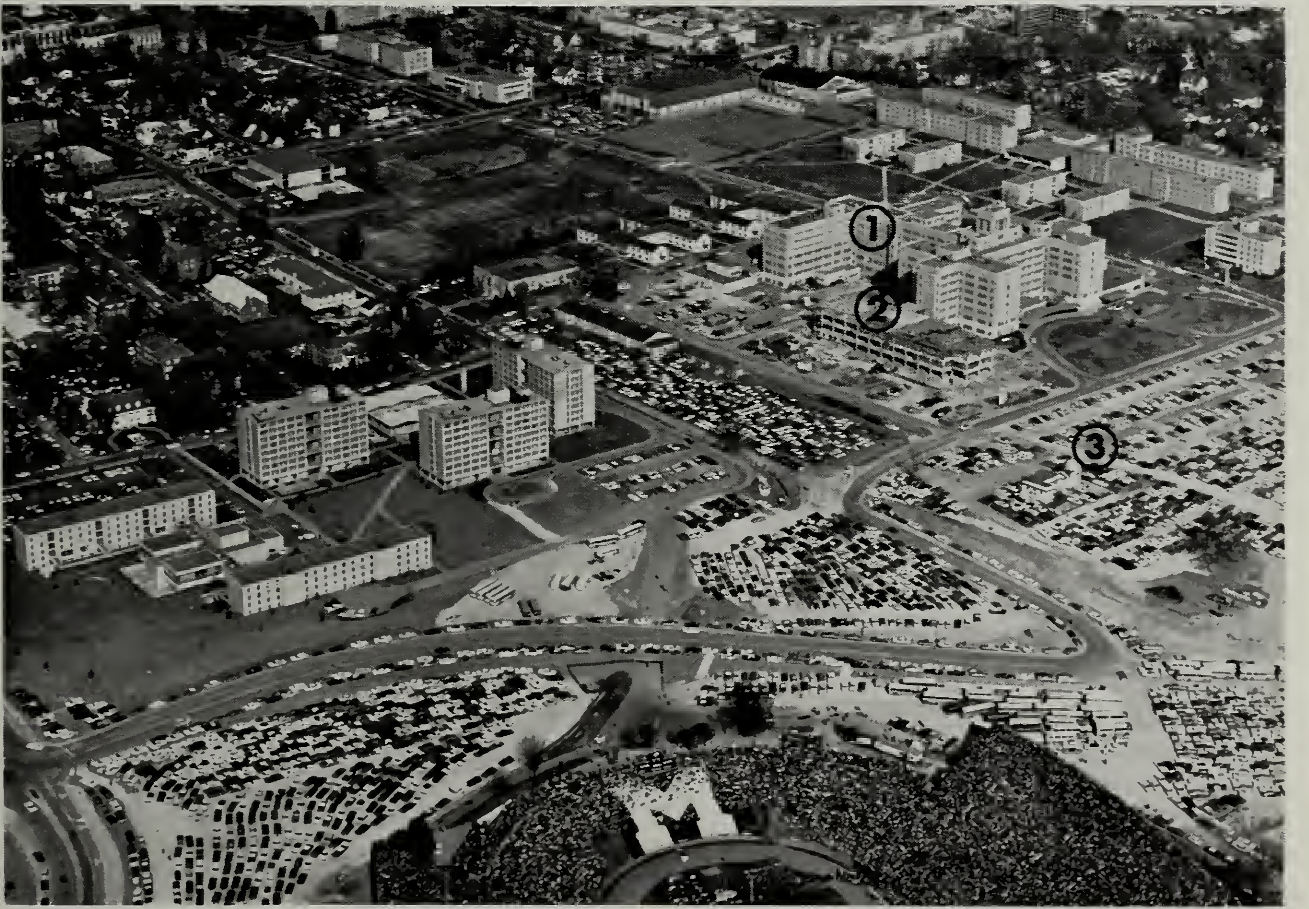
To summarize, more than 20 major appointments have been made during the course of the past year. Rather than run the risk of omitting important individuals it will only be said that all have been well prepared in their particular areas, and their decision to join us has been viewed as a compliment to the institution and to the present staff.

PROGRAMS

This year marked the institution or maturation of several key programs. Perhaps most important was the announcement by Dr. Paul R. Whitener, President of the Missouri State Medical Association, of the creation of a statewide advisory group on postgraduate education which has been assigned the responsibility of working in collaboration with the three medical schools in Missouri. Although this activity is in its formative stages, there can be little doubt but it heralds the national pattern which is being developed and much talked about elsewhere. It is certainly a fine Missouri "first."

The Medical Center Computer Program which has been designed to support the Center's interest in the better distribution of health care likewise received much national attention during the past year. Under Dr. Donald A. B. Lindberg's very fine leadership this program has provided a natural crossroads for individuals from all over the nation who have come to study the applications which have been developed for use in hospital laboratories and in other hospital and medical school activities. However, the present programs are simply models of the ultimate tool which Dr. Lindberg hopes will enable physicians to more effectively apply themselves to the personalization of medicine for their patients and to avoid the routines and paper work which have become such an anathema.

This year likewise was the time during which national legislation for the support of the Heart-Stroke-Cancer program was made effective. The three schools of medicine in concert with the state organizations are actively searching for a way in which this can be put into action so that the welfare of patients may best be served. While the problems of interrelationship are far from resolved, this did mark the first time that intensive program discussions have been held involving such a wide range of health organizations. This, in itself, constitutes a landmark.



Aerial photo of the University of Missouri Medical Center at Columbia showing locations of new and future construction. View is to the northeast from point over the stadium (bottom). 1. Recently completed addition to the research wing. 2. The new Mid-Missouri Mental Health Center, now 50% completed. 3. Site of the future Veterans Administration Hospital. Construction bids for this project are expected to be let by early summer.

The Dean has been privileged to serve on Dr. William Willard's national committee which is studying intensively the problem of the training of individuals for Family Practice. The so-called "first contact physician" is being more and more sought after by the public, and this particular committee is struggling with the ways in which physicians can be prepared and attracted into this area. The report of the committee should be released during the present year. Hopefully, it will provide at least partial answers to the problem.

Research

The research and training programs, a necessary and integral part of any large medical teaching endeavor, have continued to grow. Research grants for the year totaled $826,334 in basic research, $615,858 in training programs and $175,563 in demonstration type grants whose purpose is to assist in the development of better methods of medical care. The relatively large amount going into the latter category is very direct evidence of the school's concern in this field and also highlights the importance of the Program Development Unit mentioned earlier. A considerable number of students have participated in research endeavors, and through this activity have been further strengthened in their ability to assess the published results from research and to apply research methodology in their own clinical experiences, thus assuring patients of an even higher quality of care. A few of our students are beginning to show direct evidence of interest in assisting in teaching and in providing support to research programs. We believe it to be appropriate for a university to produce some teachers and research people as well as many practitioners of medicine.

Construction

Although this topic has been left to the last it is one of the vital keys in attracting faculty by assuring them of a suitable place in which to utilize their talents. The need for additional space is an urgent one, and even as one expansion program is completed we must plan for others to help alleviate conditions which are seriously handicapping some departments.

The Medical Science Building addition has just been completed and is now in use. This marks the first major opportunity to give relief to both basic science and clinical departments for their productive faculty members and their research interests. It also provides added room for the growing graduate education program.

Currently, active plans are in progress for the completion of the seven-story basic science building, which would make it possible to increase the freshman class in the School of Medicine to 100 students. An appropriation has been made by the state legislature for this purpose, and two grant requests are in process to the federal government. The design of the new building will be of the very latest, allowing a multi-discipline approach to teaching the basic sciences and a more active participation by clinical faculty members in that teaching process.

At the same time the Outpatient Clinic Committee is actively studying the design and needed expansion of the Outpatient Clinics, and a request has been placed before the state legislature for money to support that enlargement. This need has arisen from the increasingly large numbers of patients who are referred to the clinics and the changing nature of teaching programs for medical students in ambulant care.

Affiliations

Affiliations which the University maintains with a number of other institutions in the state continue to prove valuable in the total teaching program. Each of these affiliates was carefully selected for its particular nature and thus helps to assure medical students, interns and residents a wide variety of experiences during their preparatory period.

The two new hospitals which are being built on sites adjoining the Medical Center will further enhance the experience opportunities for students, interns and residents. Teaching programs in both of the new institutions will be under University direction.

Anticipated opening date for the *Mid-Missouri Mental Health Center,* which is being constructed as an integral part of the Medical Center, is January, 1967. This affiliation marks an important step forward in collaboration between different agencies supported by the state, here, the University and the Division of Mental Diseases. This 120-bed unit will provide an excellent opportunity to render the very best medical care to individuals who are emotionally disturbed, while at the same time offering maximal opportunity to train and recruit people who are needed for care and training programs in mental health.

Plans for the *Veterans Administration Hospital* at Columbia are now virtually completed. It is expected that bids will be accepted sometime in May or June of this year. This 480-bed facility will further add to the completeness of the medical care which can be rendered at the University of Missouri in Columbia, and is a further tribute to the wisdom of placing the school on the campus of the University. When this newest hospital is in operation, there will be in the Medical Center Complex more than 1,000 beds dedicated primarily to the care of Missouri citizens.

The University of Missouri at Columbia has been working with a variety of institutions elsewhere in the state, each of which, as indicated above, represents a different way of assisting in the care of patients. Perhaps the most vigorous of these programs is being conducted at Kansas City General Hospital under the direction of Dr. Richardson K. Noback, Associate Dean and Director of the Medical Center. Programs there continue to grow and attract extremely competent people. During this last year Dr. Donald Mark, formerly of the Washington University faculty and St. Louis City Hospitals staff, joined the M.U. faculty and heads the program in Pathology at Kansas City General. At Children's Mercy Hospital in Kansas City, under Dr. Ned Smull's direction, the program has moved forward quickly, and plans for construction of a new building on "Hospital Hill" are nearing culmination. Construction of the Western Missouri Mental Health Center in Kansas City is now almost complete, and that building should be activated in the very near future.

Affiliation with the Missouri Institute of Psychiatry in St. Louis continues to move forward, and as the training programs have an opportunity to produce more people this institution can be expected to increase still more its contributions in the study of the chronically hospitalized patient. Its contributions are the natural complement to those made by the Intensive Treatment Centers.

Plans for the Future

Because the educational process is relatively long and because construction and developmental programs move fairly slowly, it is necessary to attempt to anticipate the future. Accordingly, a number of activities are planned over the next several years, and it is hoped that these will come into action in about the order listed.

Outpatient Clinic Building. This needed addition has already been discussed and will be very badly needed quite soon. The number of clinic visits is now almost twice that which the present unit was originally designed to handle.

School of Nursing Addition. For the second year in succession the University has been unable to accept all the students who have applied and wish to attend the School of Nursing in Columbia. In view of the national shortage in the field of nursing, this seems like a very poor use of an opportunity. A request has been presented for funds to construct an addition which would allow the University to double its classes in Nursing Education. It is hoped that this construction and operation money will be forthcoming in the relatively near future.

Ambulant Wing. For a number of years one of the temporary dormitories has been used to test the need and usefulness of an ambulant wing for patients who come long distances and are requested to remain overnight but do not require hospitalization. The TD-4 unit has proven many times over its practicality and, indeed, its necessity. It is hoped that this frame building can be replaced in the relatively near future by a safer and more permanent structure, built with an all-weather connection to other Medical Center Buildings, and thus further improve the quality of care rendered to the patients who are referred to University Medical Center.

Library and Informational Sciences. The rapidly growing student body and an almost explosive change in the way in which information, of necessity, is being handled through computers, visual tapes, two-way television and other such means, have stimulated the need for new library facilities and new study of the whole field of transmission of information. If the School of Medicine is to maintain the vigorous national leadership which it has shown in this area, new facilities will be needed for this purpose sometime within the next ten years.

Public Health. The multifaceted master's degree program in Public Health which has been developed under Dr. Mack Parrish reflects the interest in this state for training programs of this type. Considerable thought will have to be given to the feasibility and need within the state for the counterpart of a School of Public Health.

Challenges

Perhaps the greatest problem facing any rapidly growing program is the ability to provide the space and equipment for new and extremely productive personnel. This is not a matter of local competition but simply one of making certain that the University of Missouri when it attempts to recruit new individuals is able to present to them at least an equal opportunity with that which other schools are offering. Although the construction program seems never ending, the demands by the public for improved health care are even more impressive. It is doubtful that we can afford to do less, but we must be ever mindful that we always face a challenge in attempting to correctly interpret the need.

A second challenge is one which is even more important, although it requires less money. This is the problem of effective and meaningful communication with the family practitioners who render care. If the School of Medicine is to function effectively as a consultation and referral resource for physicians who are on "the front line," a great deal of thought and effort needs to be placed into the communication process. We hope that our many friends in the practice of medicine will work equally diligently from their point of view with our support.

One of the most important assignments which we have is invested in the Program Development Unit. In this, your School of Medicine is making every effort to assume responsibility for improvement of the way in which health care can be delivered to the randomly ill patient. It is our firm conviction that the best care is given by the family physician and the best care is that which is given as close to home as possible. It is equally evident that many types of specialized care must be given in large centers and thus, that the transfer of patients to the appropriate place for care becomes a very delicate and essential part of the health care program. While the referral center provides care for only a very brief period of time, it is imperative that its contribution be an integral part of the family physician's plan for care. From the point of view of the patient this may well be one of our most important problems.

This year for the first time there was a drop in the number of residents of the state who applied for entry into the University of Missouri School of Medicine after apparently having made the decision to study Medicine here or elsewhere. Although the prospects for next year's class show an increase again, this brings sharply to mind the fact that the practicing profession and the schools must never relax their attempts to bring well prepared young men into Medicine. In this we need your continuing help.

Conclusion

In conclusion, this has been a satisfying and significant year in the life of the University of Missouri School of Medicine. Its successes and achievements have been due largely to the support provided by the School's many friends in the practice of medicine and throughout the state. With the most rapid period of expansion now in the past and many of the patterns for affiliation programs and general educational endeavors now shaped, the opportunity is coming to strengthen programs and provide improved quality in many of the operations in order to make of the University Medical Center a true center of excellence. The Medical Center continues to be completely dependent upon those who practice medicine for interpretation of the effectiveness of its work, for referral of patients who can be helped while providing the essential experience for individuals in training, and for constructive comments and criticism.

Based upon the impressive assistance which we have had in the past, we look forward with enthusiasm and optimism to the continuing development of the School of Medicine and the Medical Center.

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The Missouri State Medical Association since 1943 has made available to its members a Special Disability Income Benefits Policy issued by our "Loyalty Group" Companies now a part of the America Fore-Loyalty Group Insurance Companies—the largest casualty-fire underwriting group in the world. The low cost at which the policy is offered is made possible through the purchasing power of the membership of your association as a whole.
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RICHARD McLEOD, ***Columbia***

Early Diagnosis of Abdominal Trauma

Present day realities concerning the seriousness of abdominal trauma deserve emphasis. Morbidity and mortality rates from major abdominal trauma continue to be excessively high in spite of refinements in therapy, such as the use of antibiotics, blood and blood substitutes, and intravenous electrolyte solutions. Perry[1] reports a death rate of 66% in cases of traumatic perforation of the jejunum and ileum. In this same five-year summary of patients (1959 to 1963) there was a 50% mortality in traumatic perforation involving the duodenum and 100% fatality from blunt trauma with perforations of the colon.

The key to lower morbidity and mortality rates is found in earlier diagnosis and more prompt surgical intervention. A variety of circumstances contribute to a delay in diagnosis. The onset of peritonitis from perforation may be insidious and escape early detection. Abdominal tenderness, muscle spasm, distention and paralytic ileus may be equivocal or absent. Perforation of an abdominal hollow viscus or intra-abdominal hemorrhage may not be suspected in the patient arriving with multiple injuries. The patient receiving steroids may present a most benign picture. Unconsciousness or a shock-like state may mask early signs of an abdominal catastrophe.

Routine laboratory studies frequently provide very little helpful information during the first few hours after abdominal trauma. Hemoglobin and hematocrit values remain relatively unchanged for several hours after acute hemorrhage. In a study of 152 acute abdominal injuries Perry noted that the leukocyte counts determined shortly after admission were less than 10,000 cells per cubic centimeter in 23% of the cases, 15,000 or less in 47% and higher than 20,000 in only 28%. Roentgenologic evidence of free air under the diaphragm, elevation of the left hemidiaphragm, abnormal intestinal gas pattern and obliteration of the renal or psoas shadows may not be obvious. Williams and Zollinger[2] report that the diagnostic accuracy of roentgenograms was 34% in a series of 200 cases of blunt abdominal trauma. At the University of Missouri Medical Center less than 50% of cases with proven gastrointestinal perforations are found to have free air under the diaphragm on roentgenographic examination.

The purpose of this paper is to call attention to two simple reliable tests which can be easily performed at the bedside, in the physician's office or in the emergency room and can be valuable in diagnosis of gastrointestinal tract perforation or intra-abdominal hemorrhage.

A urine precipitation test for intestinal perforation has previously been described by the authors.[3] The test takes advantage of the rapid absorption of diatrizoate* by the peritoneum. Diatrizoate is essentially unabsorbed by the lining of the gastrointestinal tract,[4] so that it will be all but completely eliminated from the gastrointestinal tract if no perforation is present. Should a perforation be present, however, the

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* Sodium diatrizoate—Hypaque sodium, Meglumine diatrizoate—Gastrografin, Cardiografin, Renografin.

A description of two simple tests which can be performed in the physician's office, in the emergency room or at bedside and which can be of invaluable assistance in the prompt diagnosis of gastrointestinal tract perforation or intra-abdominal hemorrhage. The authors conclude that only by such prompt diagnosis and the subsequent surgical intervention can the currently high morbidity and mortality rates from major abdominal trauma be reduced. Doctor Stephenson is Professor of Surgery and Messrs. McCraw and McLeod are senior medical students at the University School of Medicine.

medium will pass into the peritoneal cavity and be rapidly absorbed into the bloodstream. Following peritoneal absorption, the medium will be immediately excreted by the kidney and will subsequently appear in the urine within a few minutes. Therefore, after oral administration of diatrizoate the demonstration of diatrizoate in the urine is highly suggestive of intestinal perforation. Diatrizoate can be detected in urine by addition of one to three drops of concentrated hydrochloric acid which causes an immediate dense chalky-white precipitate.

The diatrizoate can be given by mouth or via a Levin tube, usually in a 30 to 50 cc. dose. First, a urine sample should be obtained to act as a control. No precipitation should occur on addition of one to three drops of concentrated hydrochloric acid to the control urine sample. Patients receiving large doses of penicillin will usually show a precipitation in the urine when concentrated hydrochloric acid is added. Fortunately, in the acutely injured patient, penicillin will seldom have already been given. One can measure urine specific gravity to distinguish between a penicillin and a diatrizoate precipitation in urine. Penicillin changes specific gravity very little, while diatrizoate in urine (before precipitation with acid) elevates urine specific gravity to levels of 1.040 to 1.060. This extreme elevation of specific gravity apparently is never seen except when diatrizoates have been administered and is itself highly suggestive of the presence of diatrizoate in urine. To date we know of no other false positive precipitation. Serial urine samples should be obtained at 15 minute intervals and tested for the presence of diatrizoate.

Diatrizoate is well absorbed in the peritoneum even when there is well established peritonitis. In spite of decreased or absent peristalsis the contrast medium will move down the gastrointestinal tract rapidly by diffusion. We have seen diatrizoate reach the ileo-cecal valve in 30 minutes in the case of a perforation in this region when generalized peritonitis had been present for several hours.

In summary, we follow these steps in carrying out this bedside test for acid precipitation of diatrizoate in the urine:

1. Obtain a urine sample from the patient as a control.
2. Administer oral diatrizoate (30-50 cc.).
3. Obtain urine specimens at 15 minute intervals.
4. To each specimen add one drop of *concentrated* hydrochloric acid.

The formation of a thick chalky-white precipitate of diatrizoate in the urine upon the addition of concentrated hydrochloric acid should strongly suggest the presence of a perforation of the stomach or intestines. Diagnosis of a perforation by the precipitation test may precede the classical signs of overt peritonitis by several hours.

A second procedure we have found useful in the diagnosis of cases of acute abdominal trauma with associated intra-abdominal hemorrhage is the catheter paracentesis.

The recognition of intra-abdominal hemorrhage is, of course, of highest priority. Exsanguination from a ruptured spleen may proceed rapidly. The severely injured or unconscious patient may provide few clues to the presence of intra-abdominal bleeding. It is for this reason that we favor an early *catheter* paracentesis. We have discarded the four quadrant needle tap in favor of the single midline

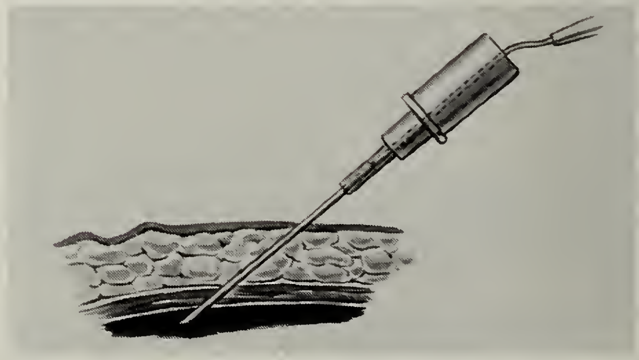

Fig. 1 A size 14 to 16 intracatheter needle is advanced in the midline against the resistance of the abdominal wall. When resistance disappears the tubing passes easily into the abdomen.

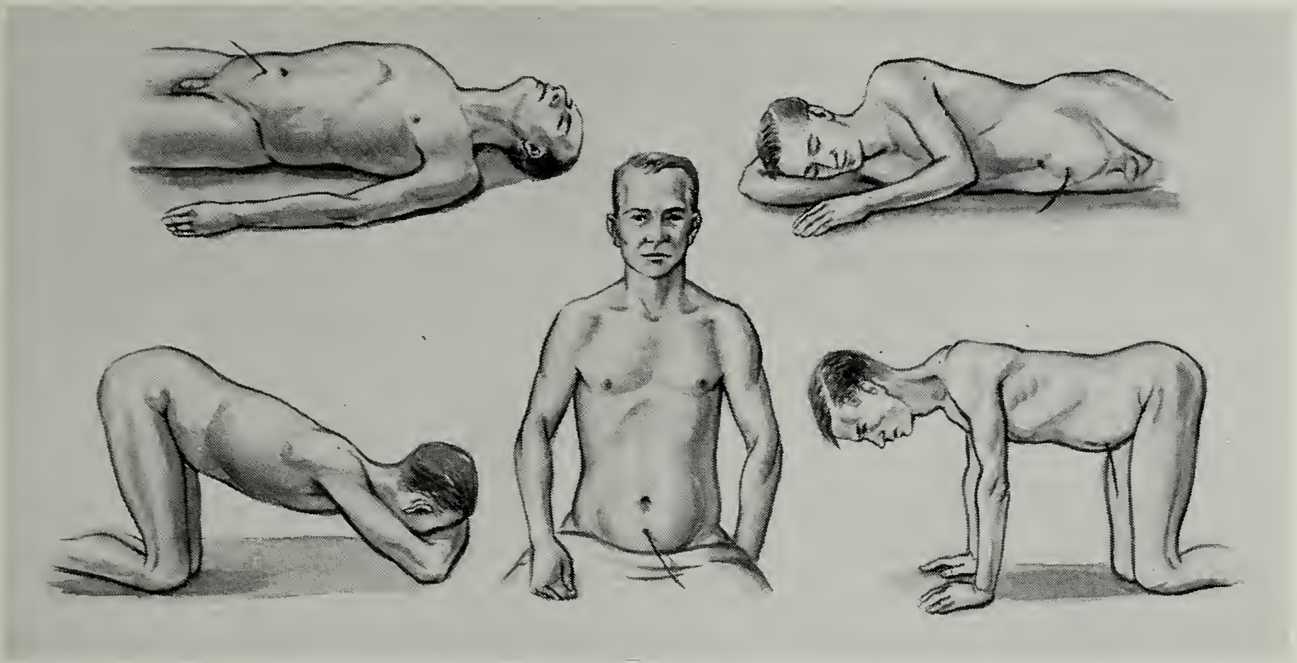

Fig. 2 With the intracatheter tubing in the abdomen the patient is placed in various positions so dependent abdominal fluid can be withdrawn. The catheter is also advanced to all four abdominal quadrants, exploring for fluid.

catheter paracentesis. With catheter paracentesis positive results are obtained in most patients with as little as 50 ml. of fluid in the abdomen.[5] The incidence of false negatives has been minimized with the catheter technique.

After local intradermal infiltration with novocaine, an intracatheter needle set-up is introduced in the midline above or below the unbilicus with the patient in the supine position. With pressure exerted on this polyethylene or polyvinyl catheter within the needle one can determine the moment the abdomen is entered (Fig. 1). At this point, the needle is withdrawn around the catheter and the catheter inserted to the desired depth and in the desired direction. A 30 cc. syringe is attached and gentle suction applied with periodic injection of small amounts of air to assure that the catheter is not obstructed or kinked. The patient is then placed in the various positions as pictured in Fig. 2. A positive tap is more likely in the prone or lateral decubitus position. Neither position lends itself readily to the needle paracentesis, and catheter paracentesis averts the danger of needle perforation of the dependent bowel in the prone position.

SUMMARY

Following abdominal trauma, the urgency of prompt diagnosis of intra-abdominal hemorrhage or gastrointestinal perforation is obvious. The use of a rapidly employed urine precipitation test and catheter paracentesis may prevent a delay in diagnosis.

BIBLIOGRAPHY

1. Perry, J. F.: Five Year Summary of 152 Acute Abdominal Injuries. Trauma, 5:53, 1965.

2. Williams, R. D. and Zollinger, R. M.: Diagnostic and Prognostic Factors in Abdominal Trauma. Am. J. Surg. 97:575, 1959.

3. McCraw, J. B., McLeod, R. A. and Stephenson, H. E., Jr.: A Urine Precipitation Test for Intestinal Perforation. Arch. of Surg., 91:248, 1965.

4. Mori, P. A. and Barrett , H. A.: Sign of Intestinal Perforation. Radiology, 79:401, 1962.

5. Gray, S. H. and Stephenson, H. E., Jr.: Use of Plastic Tubing for Thoracentesis and Paracentesis. Surg., Gyn. and Obstet., 113:779, 1961.

SYLVAN BARTLETT, *and* **FERNANDO TAPIA, M.D.,** *Columbia*

Glue and Gasoline 'Sniffing,' The Addiction of Youth

Case Report

Symptoms of cerebral intoxication caused by the inhalation of fumes of volatile hydrocarbon compounds is a continuing source of concern for those persons responsible for industrial and public safety. The petroleum and chemical industries are especially concerned with the problem. Poisoning by these hydrocarbons is much more rapid via inhalation than by ingestion.[1] Paradoxically, the symptoms which appear from the inhalation of the vapors become more severe upon reaching fresh air.[2]

The most characteristic symptoms of acute inhalation intoxication are those of the central nervous system, that is, anesthesia, hallucinations, confusion, lack of impulse control, combativeness, blurred vision, erotic stimulations and some incoordination. Sequelae that might follow include depression, lethargy, headaches, tinnitus, trembling and unsteady gait. Severe cases may progress to dyspnea, cyanosis, delirium and coma. Epileptiform seizures and death have been reported from ten minutes to four hours after the onset of observable symptoms.[3] In non-fatal cases, convulsions can continue for days after the coma has passed and may be a sequela.[4] Chronic intoxication can lead to central nervous system damage and resulting muscular weakness, trembling, paresthesia, dizziness, loss of memory, speech disturbances and either drowsiness or insomnia.[3]

The deliberate inhalation of volatile solvents of glues, plastic cements and the like has been reported more frequently than the inhalation of gasoline vapors. An indication of the magnitude of the glue sniffing is shown by the following figures:

1961—134 children arrested for glue sniffing.[5]

1962 (3 month period)—503 cases of sniffers referred to the Youth Records Bureau of the New York Police Department.[6]

It is thought that these figures reflect the trend, but probably are only a minor fraction of the total number of children involved.

The inhalation of gasoline fumes, though less commonly reported, could be a more serious problem because of its availability. There is no question of its ability to produce hallucinations, confusion, anesthesia, lack of impulse control, combativeness and to strongly habituate the individual.

A case is presented which was seen at the University of Missouri Medical Center Child Psychiatry Clinic.

Case Report

The patient was a 15-year-old delinquent boy on probation, referred by the Juvenile Court Service. He had a history of repeated stealing and similar offenses in the community, particularly since he began "gasoline sniffing" four years prior to the psychiatric referral. The immediate cause for referral was the theft of a rather valuable article, but the parents were particularly concerned with the boy's known and persistent habit of inhaling gasoline vapors which made him act "like crazy, at times." The evaluation gave a reasonable certainty of an organic brain syndrome since he was the product of a four-day labor without an attending doctor. In addition to the labor being prolonged, it was further complicated by the umbilical cord being wound about his neck. He was cyanotic, had to be resuscitated and had convulsions at birth. His mother remembers that he had convulsions until he was about one year of age. From her description, these were the *grand mal* type of seizures. He was not completely toilet trained until about the sixth year. He also had retarded speech development. The home environment was not good, involving drinking and sadistic behavior which was witnessed or experienced by the patient.

The youngster's appearance when interviewed was that of a rather self-conscious, good-looking, well-developed youth who appeared to be emotionally immature. He was genuinely motivated to seek help and reacted favorably to the clinical setting but was somewhat guarded in most of his responses. He talked readily about the theft of the article for which he had been apprehended, but it was only in response to direct questioning that he admitted he inhaled gasoline vapors. Once he began talking about this matter, however, he became very verbose and even enthusiastic in describing his experiences. He indicated that he had avoided the subject because he didn't want anyone to know about these activities. He appeared to view these actions as very degrading, but admitted he found them very enjoyable. He told how four years earlier he found the odor of gasoline fumes very pleasant when on the school bus. He proceeded to seek out gasoline and to inhale the fumes from then on and, as a result, had his first hallucinations. He apparently became maximally habituated after practicing this for one and a half years. Whenever he could get out of his mother's sight, he would open his power mower's gasoline tank and after 15 or so deep "drags" would begin to hallucinate.

He responded to the hallucinogenic effects of the vapors by bizarre actions which were without any sense of direction, pain, caution or impulse control. He related that he "felt more 'rum-dumb' than when high on alcohol." He often felt that he was lying on a plush, reddish-purple velvet carpet that extended in every direction as far as he could see and all above and around him was dark blue sky with white clouds that passed over him. Another hallucination was that he felt like a "triangular piece of glittering glass that was floating through the air." Because of this feeling of weightlessness, he thought he could float down a flight of stairs. Instead, he fell down them. This was sufficient stimulus to interrupt the hallucination and bring him in touch with reality.

His mother told how on other occasions he had run for long distances seemingly oblivious to anything in the surroundings. He would run into ponds and fences until he was exhausted or was restrained. Interestingly enough, he seemed oblivious of pain, perhaps because of the anesthetic effect of the intoxication.

Patient was of low, borderline intelligence, but not retarded. Actually, some of his IQ deficiency would be attributed to a cultural handicap. A diagnosis of sociopathic personality disturbance was made.

DISCUSSION

This case resembles in many ways others reported in the literature. In one study the mean age of boys practicing glue sniffing was 13.8 years, with a range from nine to 16 years. (Boys older than 16 were excluded from the group.)[8] Sniffing appears to be much more common for boys than girls, a ratio something near ten to one in reported cases.

This specific case presented had the habit of sniffing gasoline for approximately four years. In other studies children who had been studied had the sniffing habit for as long as 11 years or as little as a few weeks. Many children who sniffed glue reported the development of a tolerance to the fumes, with a steady increase required to achieve the same effect.[8] No such tolerance to gasoline vapor seemed to occur with our patient who expressed that about 15 "drags" would always produce his visual hallucinations.

Discussion of the various circumstances and problems related to deliberate inhalation of glue and gasoline vapors by the pediatric age group. The authors conclude that basic character disorders, often resulting from abnormal family situations, provide a predisposition to the "sniffing" habit in early years and alcoholism or related habits in the adult. The authors present a case report which appears to be typical. Doctor Tapia is Associate Professor of Psychiatry and Chief of the Section of Child Psychiatry at the University Medical Center. Mr. Bartlett is a junior medical student.

A rather substantial number of the children who have been studied have had other habits such as smoking and inbibing alcohol; and in one study, alcoholism was a trait of at least one parent in 37% of the families studied.[8] The family backgrounds of these children have been almost universally very chaotic. Conditions did exist which could contribute to serious psychopathology. From a dynamic point of view, it is believed that gasoline and glue inhalation, as clinical entities, are usually a manifestation of a character disorder, although they may be seen in psychotics or the mentally retarded. In 24 cases which include gasoline and glue sniffers, 15 children were diagnosed as schizophrenics or otherwise psychotic, one adolescent was considered to have an adjustment reaction, four had severe character disorders and one was a manic.[8-10]

The practices of glue sniffing and gasoline sniffing differ from each other to some extent. The gasoline sniffer is likely to be a "lone sniffer," whereas, glue sniffing is usually practiced in groups or "gangs."[8] A practical reason for this difference is that in glue sniffing several tubes of glue usually must be squeezed into a bag to get a sufficiently high concentration of vapors to produce the desired effect by closed circuit inhalation. These vapors rapidly diminish as the glue hardens. Thus, several persons contribute glue which is squeezed into a bag and the bag is passed from one to the other before the solvents have evaporated. The effects of glue sniffing as compared to gasoline sniffing appear to be different in that those who inhale gasoline

GLUE SNIFFING—DANGEROUS

"Alice Mary Freer, of the U. S. Children's Bureau, has pointed out the manifest risks of exciting the curiosity of impressionable youth by a mass media discussion or statement on glue sniffing.

"The potential danger, says Miss Freer, should be of concern to parents, teachers and juvenile authorities, necessitating the educative approach to the community in indicating the hazards of the habit. One death has been reported in Richmond, Virginia, in February, 1963."

Noted from *Youth Digest—Metropolitan Youth Commission (St. Louis)*, December, 1965.

vapors appear to experience quite transitory, primarily visual hallucinations. These hallucinations consist of some sense of lightness, some sort of associated motion and distortion of normal space perception with altered shapes and color. There is usually a change in affect and ideation which is usually shifted toward that of grandiosity and temporary misinterpretation. These hallucinations differ from those commonly experienced by schizophrenics and other psychotic individuals to that degree in which the schizophrenics are more aware of the fact that they are hallucinating.[8-10]

Most of the reported cases of gasoline inhalation have come primarily from rural areas, whereas, the glue sniffing gangs seem to be more prevalent in the more urbanized areas.[9, 11, 12]

Those who sniffed glue felt that they were intoxicated (as with alcohol) and almost invariably experienced transitory tinnitus. Anesthetic properties of the inhaled solvents were valued by some, and approximately 50% had visual hallucinations. EEG tracings taken when a patient was acutely intoxicated with glue vapors were abnormal, but normalization of the tracing correlated with the disappearance of the acute brain syndrome and the improvement of the clinical status of the patient.[8]

Prognosis for the sniffer is difficult to ascertain. It is a known fact that the habit is abandoned with time. Adult gasoline inhalers are virtually unknown. However, the characterological problems and the social milieu usually found in cases of early sniffers often serve as warnings of later alcoholism or some other habituation "for kicks." In children, therefore, a most vigorous intervention is justified, even to the point of using institutionalization as a means of separating the youngster from his source. It is only under such a condition that any personality building therapy can be instituted in the hope that new found strengths will lead the patient to wish to abandon his habit.

Bibliography

1. Machle, W.: Gasoline Intoxication. J.A.M.A., 117:1965-1971, 1941.
2. Hamilton, A. and Hardy, H. L.: Industrial Toxicology. Hoeber, New York, 1941.
3. Cohn, M.: Cerebral Intoxication. J. Clinical Neurology, Vol. 11, A. B. Baker (Ed.). Hoeber, New York, 1955.
4. Lawrence, J. S.: Acute Poisoning Due to Petroleum Vapor. Brit. Med. J., I:871, 1945.
5. Glaser, H. H. and Massengale, O. N.: Glue Sniffing in Children, Deliberate Inhalation of Vaporized Plastic Cements. J.A.M.A., 181:300, 1962.
6. Jacobziner, H.: Glue Sniffing. New York State J. Med., 63:2415, August 15, 1963.
7. Brozonsky, M. and Winkler, E.: Glue Sniffing in Children and Adolescents. New York State J. Med., 65:1984-1989, August, 1965.
8. Lawton, J. and Malmquist, C.: Gasoline Addiction in Children. Psychiat. Quarterly, 55:3, 1961.
9. Faucett, R. and Jensen, R.: Addiction to the Inhalation of Gasoline Fumes in a Child. J. Pediat., 41:364, 1952.
10. Tolan, E. and Lingl, F.: Model Psychosis Produced by Inhalation of Gasoline Fumes. Amer. J. Psychiat., 120:8, February, 1964.
11. Edwards, R. V.: A Case Report of Gasoline Sniffing. Amer. J. Psychiat., 117:6, December, 1960.
12. Pruitt, M.: Bizarre Intoxications (Letter to Editor). J.A.M.A., 171:2355, 1959.

Physicians in the Kansas City area are invited to attend a two-day speech seminar, sponsored by the Jackson County Medical Society and presented by Smith Kline & French Laboratories. The Seminar will be held at the Prom Motor Hotel in Kansas City on Saturday and Sunday, April 23 and 24. For additional information and reservations contact the Jackson County Medical Society, 3036 Gillham Road, Kansas City, Missouri 64108.

SHARAD H. MANIAR, M.D., ***and***
PHILIP C. ANDERSON, M.D., ***Columbia***

Mycetoma Caused by Nocardia Brasiliensis in Missouri

Case Report

A MYCETOMA IS A granulomatous mycotic infection usually involving the leg and progressing locally by destroying skin, muscle, tendon and bone. The earliest cutaneous lesions are papules, pustules and nodules. Eventually, many open sinuses and fistulas develop which may communicate with deep abscesses or form vegetative ulcers. Exudates from the sinuses usually contain colored granules which are microcolonies of the causative fungus embedded in an amorphous matrix. Mycetoma caused by *Nocardia brasiliensis* rarely is reported in the continental United States but is more common in Mexico and South America. Nocardia mycetomas may be difficult to diagnose because granules are absent.[1] In the case presented here, the onset of the disease was unusual. No granules were found, and the causative organism was extremely difficult to culture.

Report of a Case

A 51-year-old Caucasian laborer was admitted to the hospital in April of 1964 complaining of a painful swelling of the left foot and exudation from nodules on the foot. He was unable to walk. Two years previously he suddenly noticed a painful swelling of the same foot although no injury had occurred. With rest and warm soaking the pain disappeared but the swelling recurred occasionally until in the autumn of the same year he noticed a persistent "open sore" near the base of the small toe. Gradually, more erosions appeared, and increased swelling and pain in the foot forced him to use crutches to walk. At this time he was seen in the Dermatology Clinic at the University of Missouri Medical Center. The patient was a bachelor who used alcoholic drinks in large quantities. He had traveled extensively in the United States and had visited in Mexico but had not been away from Missouri since 1945. The patient had gonorrhea in 1945 and was adequately treated. With the exception of the swelling in his foot, the patient appeared to be in reasonably good health.

Examination: A nonradiating slight systolic murmur at the apex of the heart, mild early emphysema and slight nontender enlargement of the liver were found on examination. The left foot was about half again larger than the right. The dorsum of the foot was most swollen and nodules extended up the leg for eight inches. About 30 one-half to one centimeter nodules with crusting and exudation studded the foot (Fig. 1). The foot was reddish brown, warm and tender over the swollen area. Cloudy exudate could be expressed from the nodules, but no granules could be found and no organisms were seen on microscopic examination. The left ankle was rigid. Lymph nodes in the left inguinal region were enlarged but not tender. Routine hemograms, urinalyses and renal function studies were normal.

Cultures: Cultures of the exudate from the dorsum of the foot repeatedly grew a coagulase-positive Staphylococcus aureus but even on selective media, despite many attempts, no fungus grew. Only when excision for biopsy and culture from the bone was carried out by the orthopedic surgeons was *Nocardia brasiliensis* cultured.

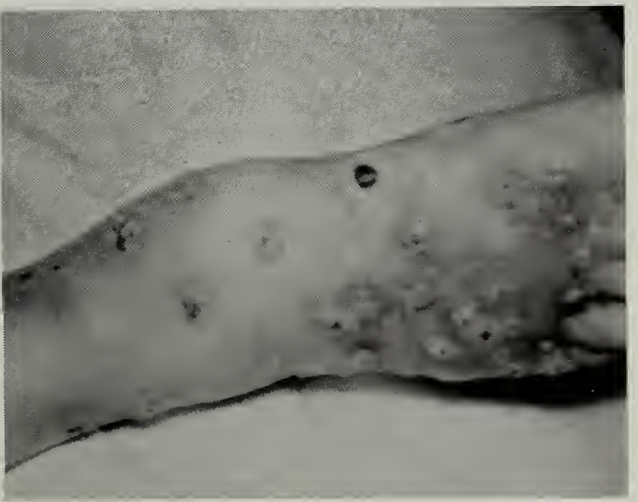

Fig. 1 The reported mycetoma at onset showing swelling of the foot and nodules extending up the leg. Cloudy exudate could be expressed from nodules.

A case report and discussion of a disease which can develop in the continental United States although it is rarely seen here. The mere fact of its possibility, plus the knowledge that early detection appears to be the best way to avoid drastic surgery, should make this paper of practical interest to all practicing physicians. Doctor Maniar was a Resident in Dermatology at the time the paper was prepared but has now returned to Bombay, India. Doctor Anderson is Assistant Professor of Dermatology at the University Medical Center.

The colony grew well on Sabouraud's dextrose agar, requiring about two weeks. The colony was red-brown in color, waxy and folded (Fig. 2). On microscopic examination branched hyphae of about one micron in diameter were seen. Other tests which confirmed the morphologic diagnosis were: the acid fast reaction of the mycelium; digestion of casein; and failure to digest Xanthine. Expert consultation in mycology was obtained.*

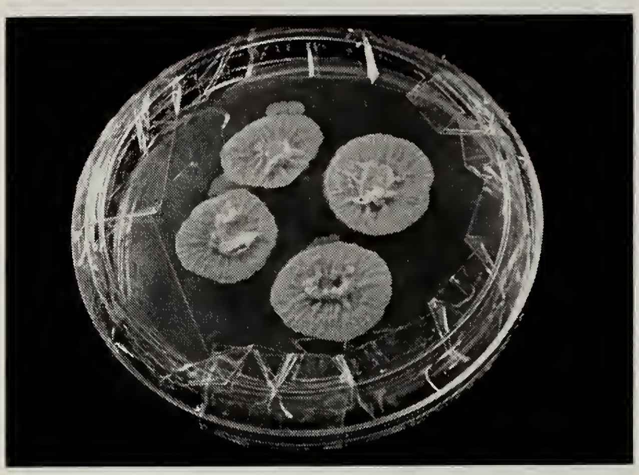

Fig. 2 Culture of *Nocardia brasiliensis*. *N. brasiliensis* can be distinguished from *N. asteroides* only by special tests.

X-Ray Examination: Extensive destruction of bone was seen in the first, fourth, and fifth metatarsals, and patchy demineralization in the distal tibia, calcanea and tarsus was noted. The changes supported a diagnosis of chronic osteomyelitis.

Biopsy Reports: Histopathologic examinations were made of skin, muscle and bone. The skin showed a hyperkeratosis and parakeratosis of the epidermis with edema and massive polymorphonucleocyte infiltration in the dermis. No fungi were seen. Tissues from the sites of ulcers showed a typical granulation with a dense inflammatory infiltrate in many groups of gram positive cocci at the ulcerated surface and deep in tissue. Again, differential staining for fungi did not reveal organisms. The specimen of bone showed osteomyelitis, but again no fungi were seen.

Treatment: Because large numbers of coagulase positive *staphylococcus aureus* were found on a smear of the exudate and recovered on culture, the patient was given intravenously 20-million units of crystalline penicillin per day for a period of one month during which the foot improved rapidly. The patient was then discharged and instructed to continue taking Triple Sulfa Suspension regularly for six months.* When he was seen a month later, the foot was considerably smaller, the patient felt better and could walk well without crutches, although X-ray pictures at this time showed no improvement.

Follow-Up: The patient was admitted again in June, 1965 and his *delirium tremens* was treated. His left leg was much improved. There were no draining sinuses or abscesses; the skin had healed; the foot was the normal size; and only residual hyperpigmentation and scars remained (Fig. 3). The patient had no difficulty walking, but some tenderness over a bony callus on the metatarsal remained. This was corrected by the orthopedic surgeons. Physical and laboratory examinations were within normal limits; and cultures taken from the skin, deeper tissues and bone did not grow *Nocardia* or any bacteria. X-ray examination showed only slight improvement. Biopsy of the skin, muscle and bone revealed a clean subcutaneous fibrovascular healing response throughout.

DISCUSSION

In most instances of mycetoma an injury is described which precedes by weeks or months the gradual onset of the disease. This patient had an acute onset and no injury was known. In his case the earliest cutaneous lesions were small erosions without papules, pustules or nodules. Granules were never seen. The foot resembled the typical mycetoma only after draining nodules developed. *Nocardia* was not cultured from the soft tissues but was recovered from bone. Because we were not convinced that a chronic staphylococcal cellulitis alone could produce the typical cutaneous lesions of mycetoma, we did repeated excisions to culture for fungi.

Mycetoma is a chronic disease, slow to respond to treatment. No trustworthy therapy is known, but sulfones, broad spectrum antibiotics and sulfa drugs are said to be effective.[2-6] The prognosis is better if the disease is detected early and if only the superficial tissues are affected. Amputation may be necessary to control a mycetoma, but a prior and vigorous trial of several medications in combination is reasonable.

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* The isolate of *N. brasiliensis* was identified by Dr. Libero Ajello, Chief, Mycology and Parasitology Section, U. S. Department of Health, Education, and Welfare, Public Health Service, Communicable Disease Center, Atlanta, Georgia 30333.

* Triple Sulfa Suspension is a mixture of sulfa diazine, sulfa merazine, and sulfa methazine. U. S. Vitamin Pharmaceutical Corporation. (Trisulfameth)

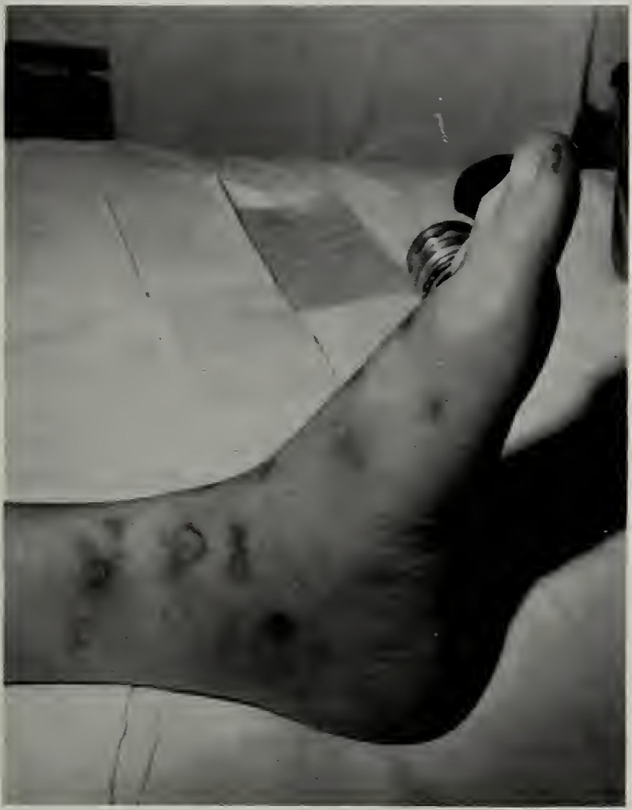


Fig. 3 The reported mycetoma after 12 months of treatment. Only hyperpigmentation and scars remain.

The earliest report of *brasiliensis* mycetoma in the continental United States was in 1921 from California.[7, 8] Subsequent case reports from all parts of the country confirm the presence of the organism in the soil of the United States and affirm the possibility of developing the disease without leaving the United States.[9-12]

SUMMARY

A lifelong native of Missouri developed an unusual mycetoma due to *Nocardia brasiliensis.* Amputation was not necessary because the mycetoma resolved after treatment with penicillin and sulfonamides. He has remained free of the disease for a year, as proven by biopsy and culture.

BIBLIOGRAPHY

1. Gonzales-Ochoa, A.: Mycetomas caused by *Nocardia Brasiliensis:* With a Note on the Isolation of the Causative Organism From Soil. Lab. Invest. 11:1118, 1962.
2. Mackinon, J. E., Arragaveytia-Allen De, R. C. and Garcia-Zorron, N.: The Inhibitory Effect of Chemotherapeutic Agents on the Growth of the Causal Organisms of Exogenous Mycetomas and Nocardiosis. Trans. Roy. Soc. Trop. Med. Hyg. 52:78, 1958.
3. Strauss, R. E., Kligman, A. M. and Pillsbury, D. M.: The Chemotherapy of Actinomycosis and Nocardiosis. Amer. Rev. Tuberc. 63:441, 1951.
4. Calero, C. M.: Mudura foot (Mycetoma): First Report From the Isthmus of Panama. Arch. Derm. 55:761 (June) 1947.
5. Cockshott, W. P. and Rankin, A. M.: Medical Treatment of Mycetoma. Lancet 2:1112, 1960.
6. Gonzales-Ochoa, A.: Griseofulvin in Deep Mycoses. Ann. N. Y. Acad. Sci. 89:254, 1960.
7. Boyd, M. F. and Crutchfield, E. D.: A Contribution to the Study of Mycetoma in North America. Amer. J. Trop. Med. 1:215, 1921.
8. Gordon, R. E. and Mihm, J. M.: A. Comparison of *Nocardia Asteroides* and *Nocardia Brasiliensis.* J. Gen. Microbiol. 20:129, 1959.
9. Moore, M., Lane, C. W. and Gaul, L. E.: Nocardiosis of the Knee Caused by Nocardia Brasiliensis: Report of First Case in a Native of the United States. Arch. Derm. 70:302, 1956.
10. Bobbitt, O. B., Friedman, I. H. and Lupton, C.: Nocardiosis: Report of Three Cases. New Eng. J. Med. 252:893, 1955.
11. Gordon, M. A.: *Nocardia Brasiliensis* in New England. New Eng. J. Med. 270:42, 1964.
12. Green, W. O., Jr. and Adams, T. E.: Mycetoma in the United States: A Review and Report of Seven Additional Cases. Amer. J. Clin. Path. 42:75, 1964.

Speakers from three different nations have been confirmed for the twelfth annual urology seminar April 13-14 at the Kansas City General Hospital. Dr. Joseph Kaufman, associate professor of urology at UCLA, will join Dr. A. Timmerman of Holstein, Germany and Dr. Jean Charbonneau of Montreal, Canada as the featured speakers. Highlights of the two-day program will include discussions of the newest techniques in urology, the latest statistics on survival of homografts and recent advances in chemotherapy. The program also includes a pyelogram conference with the audience invited to submit X-rays of interesting cases for discussion by the visiting faculty. Registration for the conference is $40, which includes the dinner on the evening of April 13. For further details, contact the Office of Continuing Medical Education, University of Missouri Medical Center, Columbia, Missouri.

CHARLES R. BUCK, JR., GARST R. REESE, ***and***
DONALD A. B. LINDBERG, M.D., ***Columbia***

A General Technique for Computer Processing Of Coded Patient Diagnoses

THIS PAPER DESCRIBES a computer data handling technique which has been extremely useful in permitting the retrieval of patient records from a number of coded medical diagnosis files. We will refer to the technique as "disk overlapping." The medical diagnoses with which this technique has been employed have been previously described.[1] Also previously described are manual systems which were capable of handling simple inquiries into the files.[2] The major advantages of this approach are that programming need be performed only once for this very generally useful system and that, for technical reasons relating to the "disk overlap" technique, the computer retrieval searches are extremely fast and efficient. In addition, the logic of the search argument is so flexible that there are virtually no bounds on the complexity of the questions which the physician may put to the system.

Description of a technique with which answers can be obtained quickly to the inquiries of physicians relating to various patient diagnostic files. The system described in this paper employs an I.B.M. 1410 computer, magnetic tape records and a random-access storage device. Doctor Lindberg is Assistant Professor of Pathology and Director of the computer program at the University Medical Center. Mr. Buck is a research associate and system planner. Mr. Reese was formerly a research associate and system analyst, but now is at the Computation Center of the University of Southern California. This work was supported in part by U.S.P.H.S. Research Grant HM-00374 from the Bureau of State Services.

METHODS

"Disk overlap" permits the physician to inquire into files containing the coded diagnoses of patient clinical discharge diagnoses, surgical operations, surgical pathology and cytology interpretations, autopsy diagnoses and the interpretations of electrocardiograms and roentgenograms. The coding schemes used for these diagnoses are essentially traditional and have been described elsewhere.[1] The system will process any coded information, numerical or alphanumerical, provided each code consists of a string of less than 15 characters.

The diagnostic records, or files, are arranged on magnetic tape in fixed-field format. About a million records can be contained on a single 2,400 foot reel of tape. This system was designed for the I.B.M. 1410 computer system at the University of Missouri Medical Center, but would be suitable for any medium or large sized general purpose digital computer which had magnetic tape drives and a random access storage device.

An essential element in the system is the random access storage device. (Ours is an I.B.M. 1301 disk file.) On this is stored a master reference record for each patient ever seen at the institution. The record consists of the patient's unit number, his date of birth, race, sex, county of residence, hospital location and other personal information. In addition a small work area has been designated so that a single storage position is reserved to correspond with each individual patient.

Physicians have used this programming system to answer such questions as:

> "How many patients in this hospital have pulmonary tuberculosis and carcinoma of the lung? What are their unit numbers?"
>
> "Give the unit numbers of patients with an electrocardiographic diagnosis of myocardial infarction (or Q wave present, or notched QRS complex) and a roentgenographic diagnosis of pulmonary edema and who have been examined at autopsy."

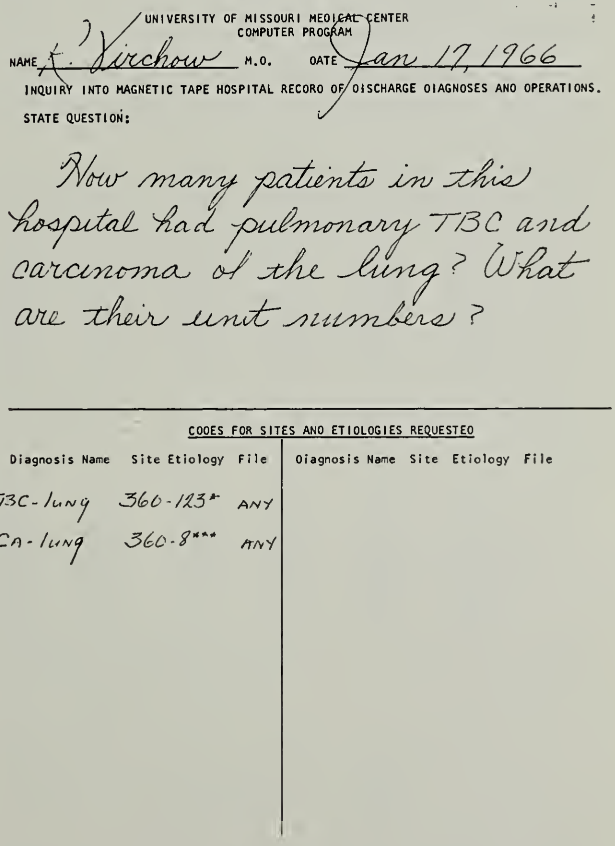
Additional examples could be given in which it could be seen that the questions used every combination of "and," "or" and "not" with respect to the requirements which had to be met by the patients whose records were to be listed. The traditional manner of processing such computer inquiries would be to write a program for each question. Since three or four queries are received each day from faculty members, and often more from students, the traditional course would be totally impractical for us.

Because the patient's unit number is part of each tape record and also has a permanent fixed place on the random access storage file, it has been possible to make the programs general and to process each inquiry merely by keypunching "control cards." These control cards are completed by a skilled clerical person, but at least do not require the attention of the computer programmer or systems analyst who originally designed the system. The control cards contain the code number of each diagnosis the physician is inquiring about and also assigns a "value" to be written by the computer system onto the patient's position in the working area of the random-access disk device. The numbers which are assigned by the system are binary numbers.

The patient's position on the random-access device is reserved for reference to him alone. It is thus unique and is referred to as a "flag" for the patient. Each patient's "flag" in his unique position will contain the sum of the "values" which indicate diagnoses which are recorded for him. Naturally, a patient may have a great many diagnoses. We do not attempt to represent all of these permanently by a single "flag" character. The "flag" is merely a working area on which the computer system makes interval notes during the course of its processing of a physician inquiry.

There are several clear advantages to this technique. First, it reserves only one single position of costly random access storage for a patient; whereas, if one were to write patients' hospital numbers at least seven positions for each patient would be required. Second, as will be noted further, the system which adds "values" for multiple diseases into a single "flag" character gives the inquirer the ability to search for any combination of diseases, present or not present.

The question in the first example is processed by the system as follows. The physician writes his question in English on the form which is shown in Fig. 1. He must either supply the code numbers (360-123 and 360-8***)[3] which stand for "pulmonary tuberculosis" and "carcinoma of the lung" or allow the medical records clerk to provide these. Asterisks are used to indicate to the system that any number or letter in the position indicated will be considered appropriate for the inquiry. Next, control cards are punched which contain the statements shown in Fig. 2. The computer system reads the punched cards and begins to search the magnetic tape records of all diagnoses. (Tapes are sorted in diagnosis code order.) When a record of pulmonary tuberculosis (code 360-123*) is found, the system identifies the unit numbers of the patients associated with the diagnosis. Next it assigns a "value" of "1" to the position or "flag" in the random access working storage corresponding with each patient who had pulmonary tuberculosis. The process is then repeated for the second diagnosis except that a "value" of "2" is assigned to the "flag" positions of all those who have carcinoma of the lung. If the inquirer had specified that a third diagnosis must also be present, a "4" would have been assigned to the appropriate patients' "flag" positions. When the "values" "1," "2," "4," "8," etc. are assigned or



UNIVERSITY OF MISSOURI MEDICAL CENTER
COMPUTER PROGRAM

NAME K. Virchow M.D. DATE Jan 17, 1966

INQUIRY INTO MAGNETIC TAPE HOSPITAL RECORD OF DISCHARGE DIAGNOSES AND OPERATIONS.

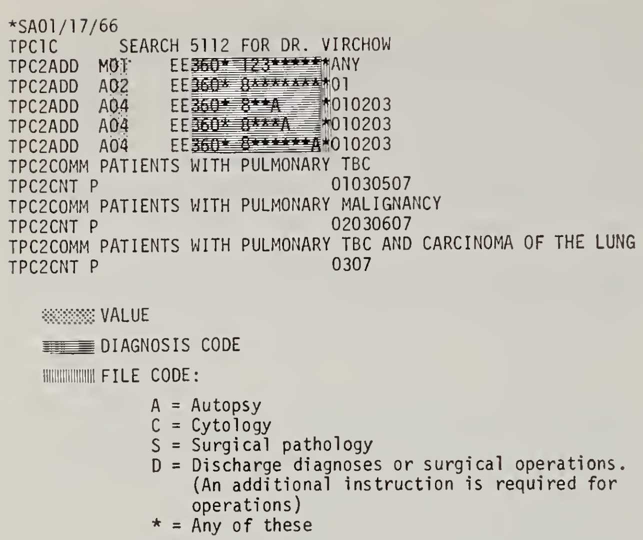
STATE QUESTION:

How many patients in this hospital had pulmonary TBC and carcinoma of the lung? What are their unit numbers?

CODES FOR SITES AND ETIOLOGIES REQUESTED

Diagnosis Name	Site Etiology	File	Diagnosis Name	Site	Etiology	File
TBC-lung	360-123*	ANY				
CA-lung	360-8***	ANY				

Fig. 1 Physician's inquiry card using the first example question.



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*SA01/17/66
TPC1C      SEARCH 5112 FOR DR. VIRCHOW
TPC2ADD  M01    EE360* 123******ANY
TPC2ADD  A02    EE360* 8********01
TPC2ADD  A04    EE360* 8**A     *010203
TPC2ADD  A04    EE360* 8***A    *010203
TPC2ADD  A04    EE360* 8*******A*010203
TPC2COMM PATIENTS WITH PULMONARY TBC
TPC2CNT P                       01030507
TPC2COMM PATIENTS WITH PULMONARY MALIGNANCY
TPC2CNT P                       02030607
TPC2COMM PATIENTS WITH PULMONARY TBC AND CARCINOMA OF THE LUNG
TPC2CNT P                       0307
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▒ VALUE

☰ DIAGNOSIS CODE

‖ FILE CODE:

A = Autopsy
C = Cytology
S = Surgical pathology
D = Discharge diagnoses or surgical operations. (An additional instruction is required for operations)
* = Any of these

Fig. 2 Statements in computer "control" punch cards to initiate search requested in Fig. 1. (Note: The use of the file code by the inquirer permits him to specify the sources of the diagnoses he is seeking, e.g., autopsy cases, clinical discharge diagnoses, etc.)

written onto the record, they are additive. Thus, the "flags" of patients who had diagnosis 1 and diagnosis 2 will contain a "3." The control card tells the computer system to print the patient numbers which are associated with a "3" "flag." Even if the physician required that four or five or six diagnoses or conditions all occur simultaneously in the same patient record, the records could be found and only the appropriate ones printed, because the "flags," as the sum of the individual "values," would remain unique. To continue with the example, if the question had required that a third diagnosis have been concurrently present, a "4" would have been assigned to all "flags" of patients with the third diagnosis. Consequently the "flags" of patients with diagnosis 1 and diagnosis 3 would contain a "5." Fig. 3 further illustrates the way in which addition of these binary diagnosis "values" can be used to yield unique diagnosis indicators ("flags").

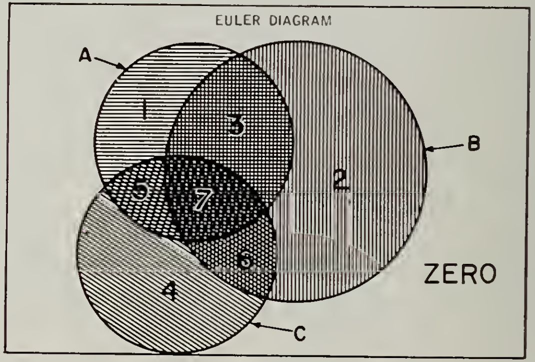
Another way of explaining this system, and one which is actually used by the medical coding clerk in assigning values, is to consider this logic process like an Euler proof in mathematical set theory. Fig. 3 illustrates diagrammatically how one may develop multiple layers of overlapping diagnoses. Usually, the logic of physicians' questions requires that the area with the densest overlap be retrieved and printed. This is not necessary, however. One could as easily retrieve the records in the less densely overlapped zones. This would be appropriate if one wished to know (with reference to the question in the second example) the people who had "heart attacks and pulmonary edema but who did not come to autopsy."

The report resulting from computer processing of the second example question is printed on the high-speed computer printer. This is either carried or mailed to the inquiring physician or student. The format of the report is shown in Fig. 4.

Results

This system of programs has been used for two years with good success. The records on all of the diagnosis files with which the system operates now number 506,225. These are contained on three reels of magnetic tape. The average computer time required to process a single inquiry is ten minutes. This is governed by the time necessary to read completely the longest magnetic tape diagnosis file. The complexity of the question has little effect on the time required to process the inquiry. There are a considerable number of editing, sorting, merging and correction routines which are part of any such working hospital system. It is planned to present these features shortly in a technical journal.[4]

FIGURE 3. EXPLANATION OF BINARY VALUES AS INDICATORS OF MEDICAL DIAGNOSES



DIAGNOSIS A	B	C	RESULTANT PATIENT FLAG	EULER DIAGRAM APPEARANCE	EXAMPLE
NOT	NOT	NOT	ZERO	▭	not tbc.; not ca.; not 3rd diagnosis
X	NOT	NOT	1	☰	has tbc.; not ca.; not 3rd diagnosis
NOT	X	NOT	2	‖	not tbc.; has ca.; not 3rd diagnosis
X	X	NOT	3	▦	has tbc.; has ca.; not 3rd diagnosis
NOT	NOT	X	4	▧	not tbc.; not ca.; has 3rd diagnosis
X	NOT	X	5	▩	has tbc.; not ca.; has 3rd diagnosis
NOT	X	X	6	▩	not tbc.; has ca.; has 3rd diagnosis
X	X	X	7	■	has tbc.; has ca.; has 3rd diagnosis

KEY:

SYMBOL		EXAMPLE DIAGNOSIS		VALUE
A	=	Pulmonary tuberculosis	=	1
B	=	Carcinoma of the lung	=	2
C	=	Third diagnosis	=	4

X indicates the presence of that diagnosis

Fig. 3 Illustration of the way in which additional binary diagnosis "values" can be used to yield unique diagnosis indicators.

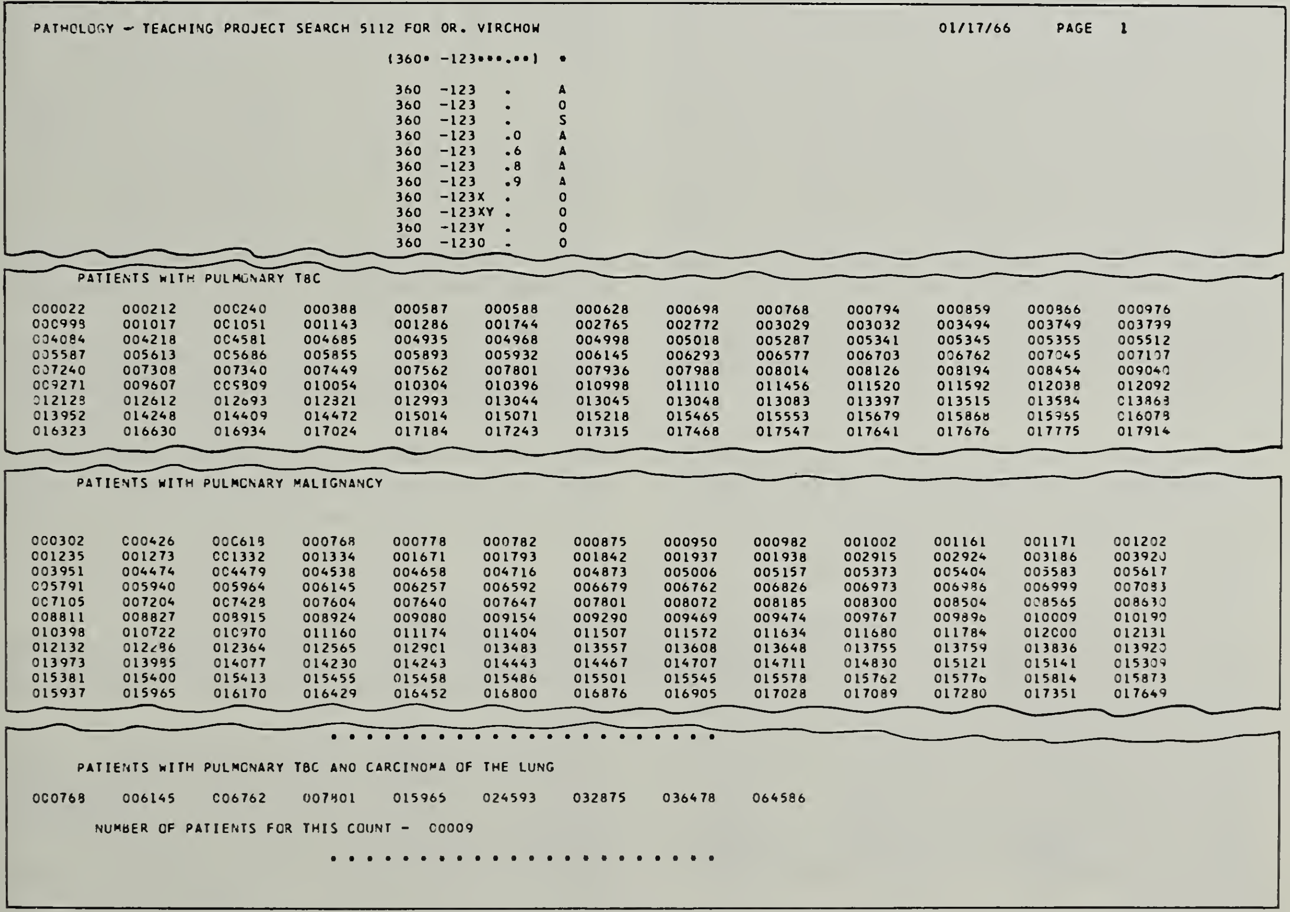
Discussion

The limitations of such a system for processing medical diagnostic information are few but formidable. The worth of the results of such searches cannot be greater than the worth of the diagnoses and the coding which make up the files. Naturally, no two physicians will agree precisely on the proper diagnosis for a large number of patients, but in general this has not been a problem for the computer system. That is, even if we differ with another physician's choice of terms, we usually know quite well what he means by the terms. Unfortunately this is not true of coded diagnoses. Considerable information is lost in converting English language to code, even though this is performed in our institution only by well-trained medical record librarians or by physicians themselves. Those physicians who use the diagnostic files repeatedly can often compensate for some of the inevitable loss of information which occurs, but not in all cases. Since one can easily read the charts of the patients who are the "answers to the question," few errors of commission go undetected. When an appropriate record is not found, however, the lack may go undetected.

On the positive side is the fact that rapid accurate search of very large diagnostic files has been made available to staff physicians and medical students. They must interpret the results in the light of what they know of the limitations of the diagnostic process and of the limitations of all coding schemes. Approximately 400 questions have been answered by use of this system.

There are experimental ways now through which it may be possible to do an even better job. Lamson[5] at U.C.L.A. has developed a system for accepting and retrieving medical diagnoses strictly in English language. This eliminates much of the inconvenience of our system and prevents loss of information, since the doctor's own words are used as the diagnostic record. The system was successfully tested using uncoded surgical pathology diagnoses. Smith[6] at Western Reserve developed another system for English language processing of medical terms, in this case autopsy diagnoses. Both sys-

(Continued on page 285)



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PATHOLOGY - TEACHING PROJECT SEARCH 5112 FOR OR. VIRCHOW                                01/17/66      PAGE   1
                                             (360* -123***.**)  *

                                              360  -123   .     A
                                              360  -123   .     O
                                              360  -123   .     S
                                              360  -123   .0    A
                                              360  -123   .6    A
                                              360  -123   .8    A
                                              360  -123   .9    A
                                              360  -123X  .     O
                                              360  -123XY .     O
                                              360  -123Y  .     O
                                              360  -1230  .     O

      PATIENTS WITH PULMONARY TBC

000022   000212   000240   000388   000587   000588   000628   000698   000768   000794   000859   000866   000976
000998   001017   001051   001143   001286   001744   002765   002772   003029   003032   003494   003749   003799
004084   004218   004581   004685   004935   004968   004998   005018   005287   005341   005345   005355   005512
005587   005613   005686   005855   005893   005932   006145   006293   006577   006703   006762   007045   007107
007240   007308   007340   007449   007562   007801   007936   007988   008014   008126   008194   008454   009040
009271   009607   009809   010054   010304   010396   010998   011110   011456   011520   011592   012038   012092
012128   012612   012693   012321   012993   013044   013045   013048   013083   013397   013515   013584   013863
013952   014248   014409   014472   015014   015071   015218   015465   015553   015679   015868   015965   016078
016323   016630   016934   017024   017184   017243   017315   017468   017547   017641   017676   017775   017914

      PATIENTS WITH PULMONARY MALIGNANCY


000302   000426   000618   000768   000778   000782   000875   000950   000982   001002   001161   001171   001202
001235   001273   001332   001334   001671   001793   001842   001937   001938   002915   002924   003186   003920
003951   004474   004479   004538   004658   004716   004873   005006   005157   005373   005404   005583   005617
005791   005940   005964   006145   006257   006592   006679   006762   006826   006973   006986   006999   007083
007105   007204   007428   007604   007640   007647   007801   008072   008185   008300   008504   008565   008630
008811   008827   008915   008924   009080   009154   009290   009469   009474   009767   009896   010009   010190
010398   010722   010970   011160   011174   011404   011507   011572   011634   011680   011784   012000   012131
012132   012286   012364   012565   012901   013483   013557   013608   013648   013755   013759   013836   013920
013973   013985   014077   014230   014243   014443   014467   014707   014711   014830   015121   015141   015309
015381   015400   015413   015455   015458   015486   015501   015545   015578   015762   015776   015814   015873
015937   015965   016170   016429   016452   016800   016876   016905   017028   017089   017280   017351   017649

                                      * * * * * * * * * * * * * * * * * * * * * *

      PATIENTS WITH PULMONARY TBC AND CARCINOMA OF THE LUNG

000768   006145   006762   007801   015965   024593   032875   036478   064586

        NUMBER OF PATIENTS FOR THIS COUNT -  00009

                                      * * * * * * * * * * * * * * * * * * * * * *
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Fig. 4 Result of computer search of diagnostic files in response to inquiry posed in Fig. 1.

PAUL C. WHEELER, M.D., ***Columbia***

The Blind Patient and the Physician Survey Each Other

Report of a two-part survey of the respective attitudes of blind patients and physicians toward the relationships between them. More than half of the blind patients involved questioned the adequacy of prognosis and rehabilitation information which they received from their doctors. Many physicians agreed that additional information on the special problems of the blind would assist them in handling this special type of patient. Doctor Wheeler is a Resident in the Section of Physical Medicine and Rehabilitation at the University Medical Center.

Once the acute phase of his eye disease is past, the blind patient usually depends on non-ophthalmologic physicians for his medical care. Although this patient should already be aware of existing agencies and facilities designed to further his independence or meet his special needs, he may on occasion request additional referrals from his regular physician. The thoroughness with which the physician handles such requests and the adeptness of his ancillary personnel in working with blind patients can vitally influence the relationship of the physician and this patient.

A previous paper[1] discussed this minute, but individually important, area of medical practice in both general and specific terms. Subsequent questions from medical students and interested practitioners have gone unanswered in many instances. The answers were simply not known, nor could they be found in print. This two-part survey was therefore initiated in order to secure a beginning fund of information. More specificalthe purposes of the study were: (1) to reflect, through the representative experience of surveyed Missouri physicians, the nature and scope of this problem in local medical practice; (2) to obtain a broader perspective through the reported experiences of observant blind patients from different geographic areas; and (3) to present the resulting data and conclusions in a meaningful practical manner.

Method and Materials

Two different, but related questionnaires were devised, one to be completed by the physicians and the other by selected blind persons. The *Physician Questionnaire* contained 11 questions, five of which required selection of the desired multiple-choice answer. The remaining six were of the "open-end" type allowing an original response. These questions were intended to measure the physician's past educational and practical experience with blind patients and also to survey his opinions concerning the relationship.

The *Blind Patient Questionnaire* contained 13 questions, five of which were check-list and eight, open-ended. These were concerned with personal medical data, experiences with physicians directly related to blindness and suggestions for improvement of their mutual understanding.

Each questionnaire was mailed directly to the person being surveyed. A covering letter of explanation and a stamped, self-addressed reply envelope was included.

The names and addresses of 520 Missouri physicians were obtained from the 1965 Directory of the Missouri State Medical Association. Every tenth name was arbitrarily selected, except for two qualifying adjustments, i.e., physicians listing institutional addresses were passed over, and at least one name was chosen from each of the 114 Missouri counties. The type of medical speciality was not known.

The questionnaire and its enclosure was then mailed directly from the Medical Center to each doctor.

Selection of 503 blind persons was made through the cooperating facilities of *The Seeing Eye, Inc.*, Morristown, New Jersey. Personnel at that institution selected likely respondents from their file of more than 4,000 graduates. Their choices included 378 men and 125 women. All were currently using guide dogs.

TABLE 1

GROUP DISTRIBUTION OF 118 BLIND PATIENTS' DISABILITY-BASED RAPPORT PROBLEMS

Categories	*Men*	*Women*	*Total Patients*
Physician and/or medical personnel	29 (23%)	23 (49%)	53 (30%)
Physician only	18 (14%)	17 (35%)	35 (20%)
Nurses	11 (9%)	9 (19%)	20 (11%)
Ancillary medical personnel*	12 (10%)	8 (17%)	20 (11%)
General public only	64 (51%)	22 (47%)	86 (49%)
No complaints	32 (26%)	2 (4%)	34 (20%)

* Physician-directed personnel such as nurses, technicians, orderlies, office receptionists, etc.

Questionnaires and reply envelopes were forwarded from our department to *The Seeing Eye,* where they were mailed out with a jointly prepared letter of explanation. This method of distribution maintained the confidential security of *The Seeing Eye* files.

RESULTS

Patient Survey: Of the 503 blind persons to whom forms were mailed, 174 replied. This included 125 men (33%) and 48 women (38%). Responses came from 36 states and three Canadian provinces (seven from the latter).

The average age was 48 for men and 53 for women, ranging from 22 to 78 years. Marital data revealed that 77% of the men were married and 20% were single. Of the women 52% were married and 30%, single. Male employment figures showed that 76% were employed and 16%, retired. Forty-three percent of the women were engaged in paid employment, and 36% did housekeeping but no outside work. The leading cause of blindness was accidents for men (26%) and retinal disease for women (32%).

Of the men 23% reported dissatisfaction with their physician's (or medical personnel's) understanding of the blind patient's special need; 49% of the women reported problems directly concerned with the relationship (Table 1). (*Note:* To avoid being misled by general, unselective feelings of dissatisfaction or hostility, questions were included which concerned the respondent's rapport with the *sighted public* only.) Fourteen percent of the men and 35% of the women who reported having no problems with the sighted public isolated their physician-patient relationship as a sole source of dissatisfaction.

A further breakdown of the statistics involving the entire medical group revealed that the hospital situation alone was implicated by 8%, nurses alone by 11%, and other ancillary personnel by 11% of the blind persons. Also, 6% simultaneously praised their physician and expressed dissatisfaction with his medical helpers.

Physician Survey: Of the 520 Missouri physicians to whom questionnaires were mailed, 129 replied (25%). Three ophthalmologists and eight non-clinical specialists were eliminated from the series, leaving a total of 118 forms from which information was obtained.

The 118 clinical physicians reported 349 blind patients in their current practices, an average of 2.9 per physician (Table 2). General practitioners, internists, surgeons, and obstetricians cared for 78% of these patients, while eleven other specialties reported the remainder. Thirty physicians had no blind patients. The internist group had the highest average with 5.2 blind patients per physician.

One group of questions was concerned with *referral* of patients to agencies or organizations specifically designed for the blind. Nearly 45%

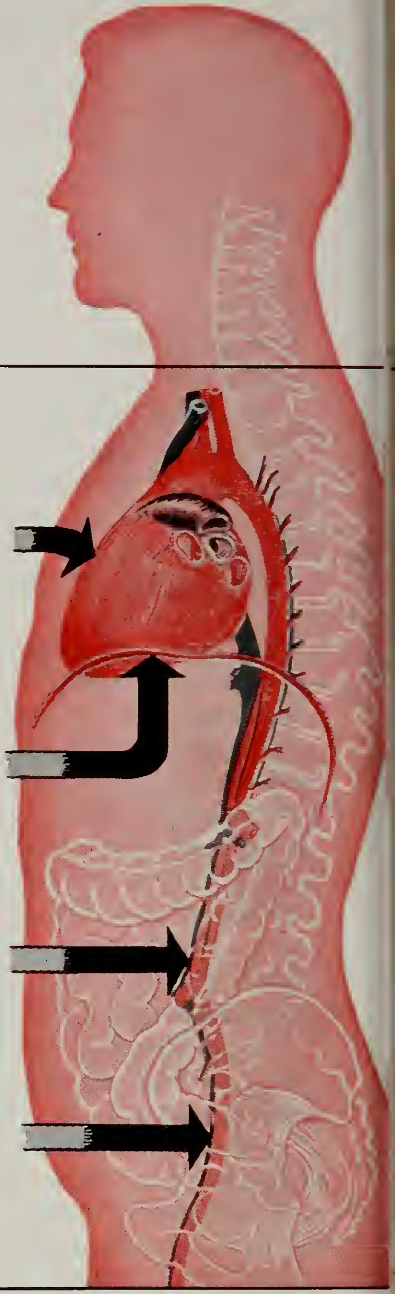
TABLE 2

DISTRIBUTION OF BLIND PATIENTS WITHIN MISSOURI MEDICAL PRACTICES

Categories	*Internist*	*G.P.*	*Surgeon*	*Ob.-Gyn.*	*Other (11 Specialties)*	*Totals*
*Respondents	16	49	18	10	25	118
No. and % blind patients	83 (23%)	125 (35%)	52 (15%)	15 (5%)	74 (22%)	349
Blind patient per physician	5.2	2.5	2.8	1.5	2.9	2.9 (average)

* Excluding ophthalmologist and non-clinical specialist.

In Cardiovascula



Increased intrathoracic and intra-abdominal pressure from straining

METAMUCIL®

brand of psyllium hydrophilic mucilloid

Metamucil Powder: 4, 8 and 16-ounce containers. Instant Mix Metamucil: cartons of 16 and 30 single-dose packets.

Patients–

Metamucil

...to prevent straining at stool and its adverse effect on blood pressure, cardiac output and pulmonary circulation.

Average Adult Dosage:

One rounded teaspoonful of Metamucil (or one packet of Instant Mix Metamucil) in a glass of cool liquid one to three times daily.

SEARLE

Research in the Service of Medicine

of the physicians thought that the majority of their blind patients would benefit from such referrals. However, only 17% had been asked to provide referral information, and only a tiny fraction of the doctors could not fill the request. Information about mobility training centers and special mechanical aids was in greatest demand by the patients.

Nearly 75% of the physicians considered their formal educational experience concerning blindness to be *less than adequate*, and only seven had received instruction in medical school. Further information was considered desirable by 29%, unnecessary by 15% and the remainder expressed no opinion.

Discussion

A clarifying statement is necessary at the outset. To avoid misleading conclusions from these data, it must be emphasized that no statistically valid comparison of these surveyed groups is possible. The persons discussed by each group are neither geographically nor culturally related to the present respondents, so any transference of characteristics would be falacious. However, a mutual concern with the *physician-blind patient* theme does permit some conscientious intragroup assessments to be made.

The immediate goal was to obtain a maximum amount of reliable information relative to the *physician-blind patient* relationship. *The Seeing Eye* graduates, being generally younger, more active and more economically independent than an unselected group, were also presumed to be more perceptive in their responses. And similarly, it was believed that the Missouri physicians would provide a reliable over-view of local experience. Both choices have proved practical and informative.

Ophthalmologists and non-clinical specialists were excluded because their inclusion would overload the statistics at both ends. Physicians with large institutional practices were similarly avoided whenever possible.

Patient Survey: The average blind patient in this study was a married male in his late 40's, working full-time. He had been blind about 18 years, usually as a result of an accident or retinal disease, and he used a guide dog for increased mobility. He visited his doctor, usually a general practitioner, about three times a year. He rarely experienced any trouble with his doctor resulting directly from his blindness. When such problems did arise, they usually involved uninformed nurses or ancillary medical personnel.

However, the average patient had definite criticism of his physician's failure to make *early referral* to rehabilitative agencies and to give a *frank prognosis,* factors which invariably resulted in delayed rehabilitation or adjustment. First, he had received scanty information about his probable chances of retaining vision, even though the outcome may have been suspected by the physician. Second, when blindness developed, the physician frequently considered his obligations to be ended. The patient felt that the doctor's acceptance of responsibility for referral would have favorably influenced his readjustment.

Since initial referral and visual prognosis are related to the early disease state, and since the average onset of blindness occurred 18 years previous to this study, one might question the applicability of this problem to current medical practices. To test the hypothesis that this remains a current problem, patient responses were re-evaluated (Table 3). It was found that 44% of all respondents reported having received inadequate information concerning their prognosis or initial referral. Half of those patients had been blind less than ten years. In other words, there was no apparent improvement in this area of medical practice during the last decade.

Physician Survey: Although the general practitioners in Missouri care for the largest group of blind patients, the internists averaged more than twice as many such patients per physician. Almost none of the physicians reported difficulty with the mechanical aspects of caring for their blind patients. About one-fifth have been asked for referrals, usually for special training or aids,

TABLE 3

Blind Patients' Two Major Complaints Related to This Decade

Patient Complaints	*Onset of Blindness* <10 years ago	 >10 years ago	*Totals*
Inadequate initial referral	47 (60%)	30 (38%)	77 (44% of all patients)
Poorly informed about probable prognosis	9 (56%)	7 (43%)	16 (9% of all patients)

and they have been able to honor these requests without difficulty. Over three-fourths had received no formal training in handling the special requirements of the blind, but most had learned from experience. Many physicians expressed an interest in obtaining additional practical information, primarily through literature or regular medical channels.

CONCLUSIONS

Data from this study support the following statements. Whether they would be applicable in a broader population is not known.

1. About half of all these blind men and women had difficulty in their relations with the sighted public as a result of their blindness.
2. Few blind males experienced difficulties with their physicians.
3. When these problems did occur in the medical sphere, they usually involved ancillary and physician-directed personnel rather than the physician alone.
4. Over half of the blind patients reported that they had received inadequate *prognostic* and *agency referral* information in the early stages of their disease.
5. Such prognostic and referral problems occurred with increasing frequency during the past ten years.
6. These Missouri physicians experienced few special difficulties in caring for their blind patients.
7. Many of these physicians professed interest in enhancing their effectiveness through a more informed relationship with their blind patients.

SUMMARY

This paper presents the results of a two-part survey concerned with the relationship of the blind patient and his physician. The participants were 118 Missouri physicians (excluding ophthalmologists and non-clinical specialists) and 174 graduates of *The Seeing Eye, Inc.*

The more pertinent information is presented in tabular form, and significant conclusions are listed above.

No attempt is made to statistically interpret or compare these companion surveys.

Acknowledgements: We are indebted to *The Seeing Eye, Inc.*, Morristown, New Jersey, for its many contributions to this survey. Gratitude is also extended to the many *Seeing Eye* graduates and Missouri physicians who participated.

BIBLIOGRAPHY

1. Wheeler, P. C.: The Physician and His Blind Patient. Missouri Med., 62:287-289, 1965.

Computer Processing (Cont'd)

tems have been used so far in the pathology area alone and both require very large computers. We hope that the additional computing capacity planned for this medical center will permit us to emulate these systems and possibly to extend their usefulness to general hospital diagnostic terms.

BIBLIOGRAPHY

1. Lindberg, D. A. B.: Electronic Retrieval of Clinical Data. J. Med. Educ., 40:753, 1965.
2. Lindberg, D. A. B., Reese, G. R. and Buck, C. R., Jr.: Computer Generated Hospital Diagnosis File. Missouri Med., 61:851, 1964.
3. Standard Nomenclature of Diseases and Operations. Fifth edition. E. T. Thompson and A. C. Hayden (Ed.). American Medical Association, Chicago, 1961.
4. Buck, C. R., Jr., Reese, G. R. and Lindberg, D. A. B.: Computer Logic for Processing Coded Medical Diagnoses. (In preparation.)
5. Lamson, B. G.: Storage and Retrieval of Uncoded Tissue Pathology Diagnosis in Original English Free Text. Proc. of the Seventh I.B.M. Medical Symposium. White Plains, N. Y., 1965.
6. Smith, J. C. and Melton, J.: Manipulation of Autopsy Diagnoses by Computer Technique. J.A.M.A., 188:958, June 15, 1964.

WILLIAM T. GRIFFIN, M.D., ***Columbia***

Pseudomucinous Cystadenocarcinoma of The Ovary Associated With Pregnancy

Case Report

Cystic ovarian enlargements are detected frequently during pregnancy. Although the incidence of malignant ovarian neoplasia is significant during the reproductive age span, the occurrence of ovarian malignancy complicating pregnancy is quite rare. Because this phenomenon occurs infrequently and constitutes a difficult diagnostic problem, the following case report of bilateral pseudomucinous cystadenocarcinoma of the ovary complicating pregnancy is presented.

Case Report

This 28-year-old white, married, gravida 8, para 5, aborta 2 was first seen at the University of Missouri Medical Center November 20, 1964 with the chief complaint of "pain" of one month's duration.

Present Illness: LMP July 1, 1964, EDC April 8, 1965. The patient had apparently experienced an uneventful course until the end of the first trimester, at which time she observed that her abdomen seemed to be larger than with previous pregnancies. Shortly after feeling fetal movement, she noted progressively severe abdominal pain, localizing in the left upper quadrant. The day prior to admission she experienced abdominal cramping and a small amount of bright red vaginal bleeding.

Family history indicated several instances of multiple pregnancy.

Physical examination revealed a thin white female in no acute distress. Blood pressure was 125/70, pulse 80, respirations 16, temperature 98.4° and weight 104 lbs. General physical examination revealed a Grade II systolic heart murmur heard apically and along the left sternal border. A large mass filled the left upper quadrant of the abdomen and was thought to contain both cystic and solid elements. The uterine fundus measured 12 cm. above the pubis and the fetal heart was heard in the lower midline, suprapubically.

Pelvic examination revealed typical changes of pregnancy and a uterine corpus compatible with a 16-week intrauterine gestation. The large mass palpable on abdominal examination was found to extend posteriorly and to the right of the uterus.

The admitting diagnosis was: (1) intrauterine pregnancy; (2) ovarian neoplasm.

Laboratory Examination: Hemoglobin 11.2 gms.%, hematocrit 33%, WBC 10,200/cmm., with a normal differential. Routine urinalysis was normal. A catheterized urine culture grew out Candida albicans. Bleeding and clotting times were normal, platelet count was 221,000/cmm. BUN 12 mgs.%, FBS 68 mgs.%, and Bilirubin, total, 0.4 mgs.%. Red blood cell fragility was within normal limits, lactic dehydrogenase 980 units, SGOT 48.0 units, and all febrile agglutinins negative. Serum electrolytes were within normal limits. Papanicolaou smears from the cervix and vagina were reported as Class I. Chest films, PA and lateral, were within normal limits. An intravenous pyelogram showed only "physiologic" dilatation of the right ureter and a gravid uterus, containing a single fetus.

Hospital Course: On November 27, 1964, through a left paramedian abdominal incision, an exploratory laparotomy was performed. A ruptured left ovarian pseudomucinous cystadenocarcinoma, weighing 750 gms., and an intact right ovarian tumor, weighing 160 gms., were found, as well as a metastatic nodule on the pelvic sigmoid colon. A bilateral oophorectomy and segmental resection of the involved sigmoid colon was accomplished.

The postoperative period was complicated by fever, attributed to pelvic cellulitis, which responded to antibiotics. On the seventh postoperative day a spontaneous, complete abortion occurred.

At the patient's request she was discharged for two weeks, then re-admitted and treated with a fractional course of external irradiation, delivering a total of 4,000 rads to the pelvis.

On February 8, 1965 she was again admitted to the Gynecology service and received intravenous Phenylalanine mustard for a total of .8 mgs./kg. of body weight, and discharged on Chlorambucil.

In April 1965 the patient developed abdominal pain, fever, nausea and vomiting, and presented with

Review of the clinical problem related to primary ovarian pseudomucinous carcinoma associated with pregnancy. The author notes with interest that the prognosis for such patients *appears* to be more favorable than can be anticipated for non-pregnant females with similar ovarian malignancy. It is recommended, however, that the treatment of this disease entity be the same in pregnant and non-pregnant patients. Doctor Griffin is Assistant Professor in the Department of Obstetrics and Gynecology at the University School of Medicine.

an acute abdomen and intestinal obstruction. Abdominal exploration revealed small bowel obstruction, secondary to pelvic abscess, originating from a defect in the original sigmoid anastomotic site. A transverse colostomy was performed. Subsequently, the patient has had an uneventful course.

Discussion

The incidence of ovarian tumors coexisting with pregnancy varies from 1 in 1,000 to 1 in 8,000 pregnancies.[1-3] The occurrence of ovarian carcinoma is reported to vary from 2.2% to 3.7% of all ovarian tumors found during pregnancy. A review of the English literature through 1964 produced 36 cases of primary ovarian carcinoma associated with pregnancy. Of these primary ovarian carcinomas eight were pseudomucinous cystadenocarcinomas, only one of which was proven to be bilateral.[1, 3, 4] A high incidence of complications attended all reported cases, particularly those having ruptured spontaneously. No uniformity of therapy was apparent, varying from unilateral oophorectomy to total hysterectomy and bilateral salpingo-oophorectomy, with less radical procedures applied to the more advanced pregnancies.[1, 3, 5] The follow-up on these reported cases varied, at the time of publication, from 14 months to 16 years, and revealed seven of the eight patients alive and without evidence of residual disease.

Summary

Recognizing the extremely poor prognosis of ovarian malignancy in general, it is of interest that the apparent survival rate of patients with pseudomucinous cystadenocarcinoma discovered during pregnancy appears to be more favorable than that usually anticipated in the non-pregnant female.

Although the small number of documented cases precludes any logical conclusion, it is intriguing to speculate as to a factor modifying ovarian malignancy, mediated perhaps by associated gestational phenomena.

Certainly, from a clinical standpoint all females deserve adequate pelvic and abdominal examination during pregnancy. In general all ovarian enlargements might well be viewed with an enhanced index of suspicion and, if persistent, 6 cm. or more in diameter or evidencing progressive enlargement, be delineated surgically.

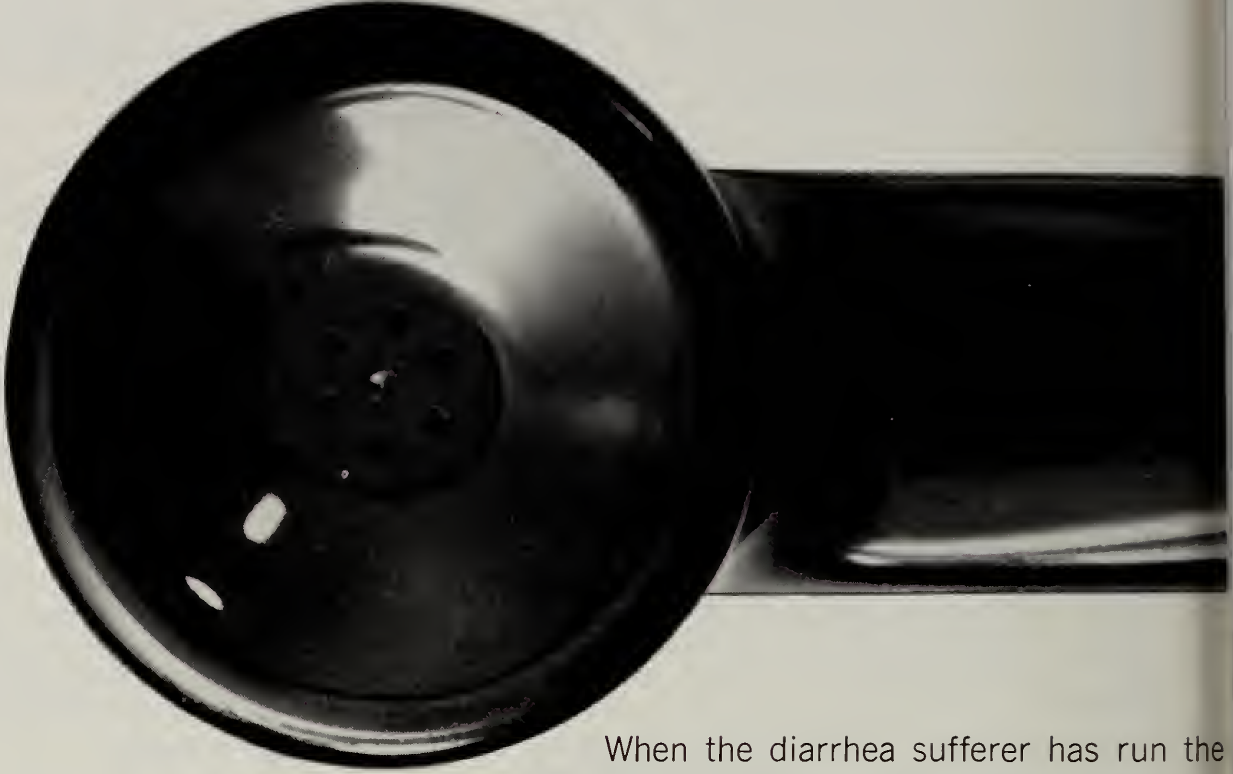
Although it appears that the prognosis of ovarian malignancy might be better when pregnancy coexists, until further conclusive evidence presents, the treatment of ovarian carcinoma occurring with pregnancy should probably be the same as that in the non-pregnant patient, modified perhaps by the desires of the patient and the imminency of fetal maturity.

Bibliography

1. Greene, W. L. and Jones, E. H.: Coexistent Pseudomucinous Cystadenocarcinoma and Pregnancy. Obst. and Gynec., 14:349, 1959.
2. Gustafson, G. W., Gardner, S. H. and Stout, F. E.: Ovarian Tumors Complicating Pregnancy. Am. J. Obst. and Gynec., 67:1210, 1954.
3. Gleichert, J. E.: Coexistent Bilateral Papillary Serous Cystadenocarcinoma and Benign Cystic Teratoma in Pregnancy. Obst. and Gynec., 24:135, 1964.
4. Jubb, D. E.: Primary Ovarian Carcinoma in Pregnancy. Am. J. Obst. and Gynec., 85:345, 1963.
5. Quehl, E.: Pregnancy Complicated by a Malignant Ovarian Cyst. J. Obst. and Gynaec. Brit. Emp., 57:253, 1950.

The U. S. Public Health Service will buy at least one and one-half million doses of vaccine during the next year to protect preschool children against measles, according to Surgeon General William H. Stewart. The vaccine will be supplied under contract with Philips Roxane Laboratories, St. Joseph, Missouri. The vaccine will be offered to health departments receiving project grants under the national Vaccination Assistance Act. The Public Health Service will pay 68 cents a dose for the vaccine, including gamma globulin to be used in conjunction with the vaccine to minimize reactions.

When uncontrolled diarrhea brings a call for help



When the diarrhea sufferer has run the gamut of home remedies without success, pleasant-tasting CREMOMYCIN can answer the call for help. It can be counted on to consolidate fluid stools, soothe intestinal inflammation, inhibit enteric pathogens, and detoxify putrefactive materials—usually within a few hours.

CREMOMYCIN combines the bacteriostatic agents, succinylsulfathiazole and neomycin, with the adsorbent and protective demulcents, kaolin and pectin, for comprehensive control of diarrhea.

Indications: Diarrhea. *Contraindications:* Kaolin: Withhold if diverticulosis is present or suspected. *Precautions:* Sulfonamide: Continued use requires supplementary administration of thiamine and vita-

President's Message

Byron M. Stuart, M.D.

The House of Delegates of the American Medical Association at its latest meeting called on physicians and medical organizations throughout the country to continue to exercise initiative in developing effective and efficient utilization review programs.

Utilization review, apparently because it is mandatory under provisions of the new "medicare" law, has suddenly taken on grim and ominous overtones for many in our profession. They forget that the profession was using utilization review either directly or indirectly long before the politically motivated social planners concocted "medicare." They forget that utilization review is a logical concept designed to improve the efficiency of one aspect of medical care.

I hope that during my term of office the Missouri State Medical Association will willingly follow the recommendation of the AMA in regards to utilization review. We already have an excellent start, thanks to Dr. Blaine Hibbard's special utilization review study committee. I also hope that this same attitude can be applied in other areas . . . that Missouri physicians and their State Medical Association will take hard objective looks at every genuine medical and health care problem which presents itself and will exercise initiative in developing effective and efficient solutions.

If physicians fail to recognize medical and health problems . . . if physicians fail to examine and analyze such problems . . . if physicians fail to offer logical and scientifically sound solutions to those problems . . . then rest assured, there are those in our society who stand ready to rush into the breach with their illogical and unscientific panaceas.

Woman's Auxiliary

In 1925 the first annual meeting of the Woman's Auxiliary to the Missouri State Medical Association was held in Kansas City. Forty-one years later, again in Kansas City, I was installed as President of the Woman's Auxiliary. To all those Presidents before me, I pay tribute. To our immediate Past-President, Mrs. Ralph Woods Bohnsack, I give sincere thanks for a fine administration, for her patient guidance and for her generous devotion of time and self to our organization.

Mrs. Wallace R. Stacey

The underlying message I shall try to bring to you this year is:

KNOW YOUR AUXILIARY

How can we sell doctors' wives on the idea of belonging to an auxiliary unless we first sell the doctors? To be completely "sold" on something, one needs to be well informed.

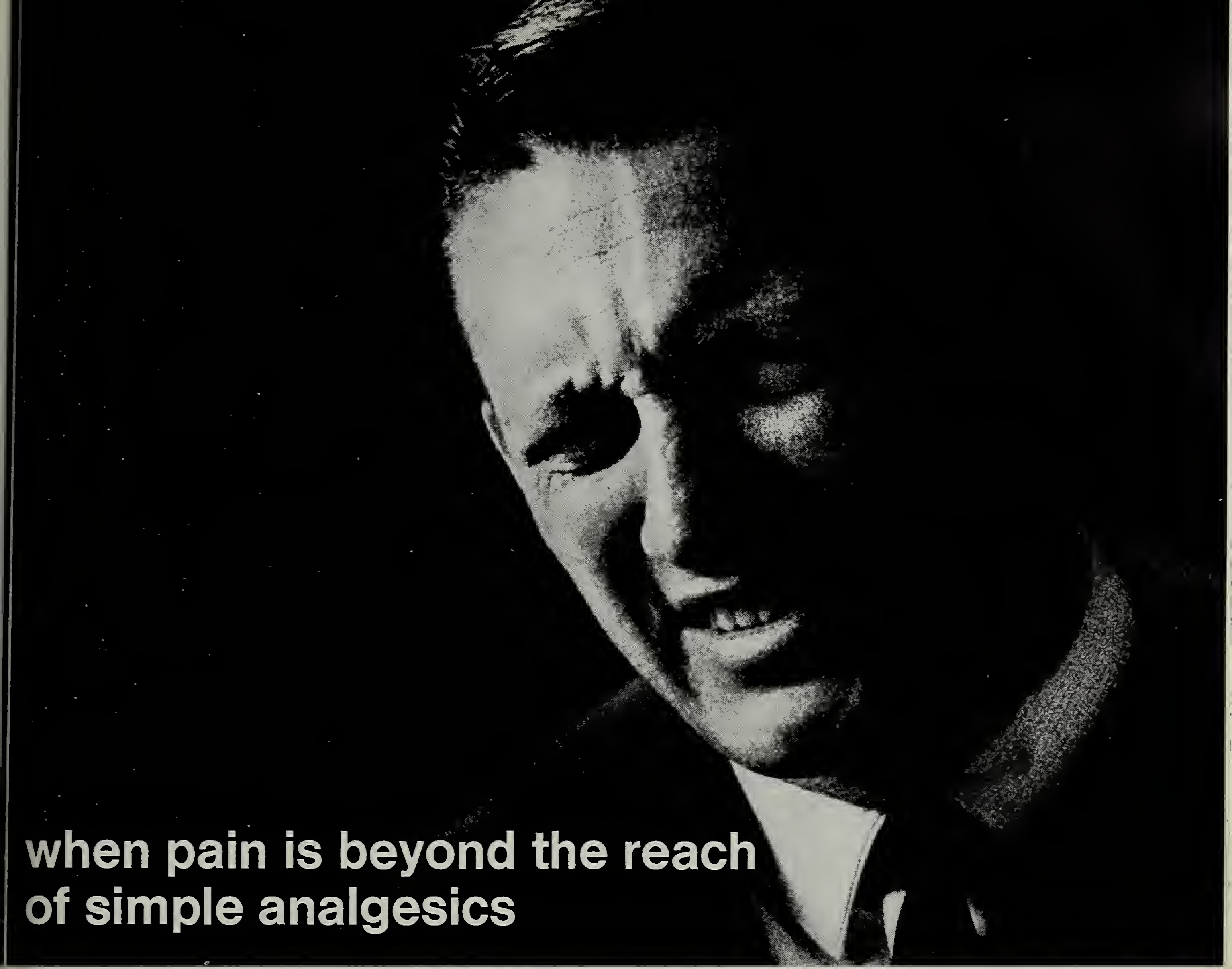
Our national organization has 88,000 doctors' wives and 1,185 county or local auxiliaries. It was organized May 26, 1922 in St. Louis. Our State Auxiliary has approximately 1,900 members, which is less than half the membership in the Missouri State Medical Association. The enormous gap in membership need not occur if all doctors were "sold" on the idea of an auxiliary to their county and state organizations.

Why have an Auxiliary? According to our objectives we pledge to assist our State and National Associations in the program for advancement of medicine and public health and to cultivate friendly relations and promote mutual understanding among physicians' families. Our work falls primarily into three categories: (1) community service, (2) gifts and (3) helping hands for doctors (recruitment of health personnel, assistance in sponsoring health fairs, immunization centers, etc.). It is our desire to work at all times under the guidance of the doctors' organizations.

Every doctor's wife should be a member of the auxiliary to her husband's profession. At our present rate of growth it will take about 100 years to close the gap in membership between the auxiliary and the medical association. The time is here for Missourians to consider the joint husband-wife membership, as proposed by our National Auxiliary. Both the doctor's dues to his Medical Society and the dues of his wife to the Auxiliary could be paid by one check. This, I am hopeful, will be discussed jointly in the near future by our Woman's Auxiliary and the Missouri State Medical Association. This plan has been followed successfully in many states.

The Woman's Auxiliary and the Missouri State Medical Association must always strive for an even closer working relationship if we are to emulate what Henry Ford once said:

> "Meeting together is a beginning, staying together is progress, but working together is success."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- mental tension
- muscle tension-spasm

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Side effects have been minor. Occasionally gastric distress, weakness, sedation or dizziness occur. Reversible cholestatic jaundice has been reported on rare occasions. However, in 4,653 patients treated with chlormezanone, 97.7% had *no* side effects.[1] *Contraindication:* just one: sensitivity to aspirin. *Dosage:* Adults, usually 2 tablets three or four times daily. Children (from 5 to 12 years), 1 tablet three or four times daily.

[1] Collective studies, Department of Medical Research, Winthrop Laboratories.

Winthrop WINTHROP LABORATORIES, NEW YORK, N. Y. 10016

EDITORIALS

'WHERE THE BOYS ARE'

The latest issue of the Alumni Directory of the University of Missouri School of Medicine has recently been released. Within the limitation of accuracy for such lists (it is difficult to keep records up-to-date with military service and residency moves), it is interesting to scrutinize the roster for the locations of some of the recent medical graduates.

In examining the Directory we have paid particular attention to the possible effect that the four-year curriculum at Columbia may have had upon the careers and locations of the physicians. Since the graduation of the first four-year class in 1957, there have been 466 graduates from the M.U. School of Medicine. Seventy-seven of these graduates are interns at the present, and 22 members of the Class of 1965 are serving their internships in the state of Missouri.

Of those graduates who have been out of school long enough to be in practice and who designate as practicing either in a specialty or general practice, we find 247 names. Of these, 137 are listed as practicing in a designated field in Missouri. Several have not indicated a field of practice, but of the 466 graduates 208 physicians still reside in Missouri or give Missouri as their latest available address.

Aside from Missouri, the state having the largest number of M.U. Medical School graduates is California with 40. Thirty-five Missouri alumni report Texas addresses, and 16 are listed as being in New York. Several of the latter give APO addresses indicating overseas military service.

Twenty-two graduates list themselves as doing general practice in a location outside of Missouri. Of the 41 known to be practicing as GP's within Missouri, 35 are in communities of less than 5,000 population, five are in communities of about 10,000 population and at least one is in a city of more than 10,000.

Some attempt has been made to correlate the location of present practice with the size of the community where the physician attended high school. Prior to 1960 the University records did not show this. Six of the GP's who practice in non-metropolitan Missouri are now located in towns of about the same size as those which they left to enter Medical School. There are four physicians doing general practice in rural areas who had their high school education in large metropolitan areas. Only one physician, now in general practice in Missouri, entered the Medical School from an out-of-state address.

In 1963 the M.U. College of Agriculture reported that about 80% of all physicians practicing in rural Missouri or in communities of less than 10,000 population originated in communities of that size or smaller and that about 70% of the practitioners in rural Missouri originated in the state.

In attempting to draw conclusions, it must be remembered that our information relates to less than 50% of the four-year graduates of the M.U. School of Medicine. There is a three to five year lag in statistical representations because of military commitments and time for postgraduate training. Nevertheless, we find 63 graduates presently engaged in general practice and 247 graduates engaged in some type of medical practice, so we might conclude that 25.5% of the graduates are now involved in general practice. This is the exact percentage shown by the 1965 Alumni Directory for *all* American physicians in general practice. It contrasts with trend data released by the American Association of Medical Colleges in March 1962, showing the career choices of medical school graduates during the years 1957 and 1961. Those figures indicated that only 21% of the graduates were entering general practice.

A. SHERWOOD BAKER, M.D.
Assistant Professor,
University of Missouri School of Medicine

M.S.M.S.A.S.

If it were a snake, it would bite you! But it isn't . . . and it won't.

I speak of the Missouri State Medical Secretaries and Assistants Society (M.S.M.S.A.S.). If you haven't already heard, it is the organization which your secretary or assistant should join, enjoy and benefit from. This fine organization is the state branch of the National Association; and its members are dedicated gals who possess the charm of queens (which they are!) and the dedication of Florence Nightingale's. Just belonging to the organization seems to infuse them with a glow which was not apparent before.

I have had the rare opportunity of visiting two of their annual state conventions. Both programs were excellently planned and executed. Both were full of subjects which are useful in our everyday practice. The connections made through these conventions and other organizational business have proven to be valuable to my practice on more than a few occasions.

A yen for self-improvement seems to permeate the entire Society. The gals publish an excellent journal, one which rivals some of the better professional journals in keeping the membership informed on educational and business advances. Naturally, the journal has its lighter side, and it keeps the gal in contact with an excellently coordinated professional and social organization.

I think that any medical secretary or assistant who is worth her pay is worth belonging to the M.S.M.S.A.S. It's a welcome fringe benefit for "my gal Friday." Doctor, maybe you should likewise encourage yours to join. It's deductible, too!

JOHN T. CROWE, M.D.
Cape Girardeau

DOLLAR DILEMMA

We have been advised by the Executive Vice-President of AMA to be more cognizant of medical costs. It is our responsibility to keep them at a minimum.

It is agreed that we have a responsibility to our patients to keep the cost of medical care at the lowest level consistent with good medicine. However, this statement by omission of any other factors implies that the physician is the only person responsible for medical costs. It would seem that it is time, in fact it was time many years ago, to spell out the where, why and how of medical costs.

Unfortunately medical costs are not determined by the individual but are a summation of many facets. The one factor which seems to escape the thinking of many is that medicine is primarily a personal service, by not one but many people.

It should be broadcast loudly by all means of information dissemination that it takes. Two people are employed for every bed in a general medical hospital; and each physician has two to four people working for him personally.

Now L.B.J. wants to stamp out poverty. It is noteworthy that hospital employees are the most underpaid and poorly paid people employed. Only recently has the minimum wage been raised to the national standard of $1.25 per hour. So this means that if all employees of hospitals were only paid the $1.25 per hour, it costs $20.00 a day per bed for help. The charge locally for a semi-private bed today varies between $24.00 and $30.00.

Other business operations, when employee costs reach 83 to 100 per cent of the charge, either raise the charge of the service or go into automation. Medical automation is impossible.

Behold the dilemma! Stamp out poverty and at the same time reduce medical costs.

We know where the cost of medical care is. It's time to show the public where the costs are: (1) people, (2) food, (3) heat, (4) light, (5) phones, TV, etc. They have all increased in cost over the years. It is impossible for medical care to go against the tide and cost less.

E. H. STRATEMEIER, Editor
Greater Kansas City Medical Bulletin
December 11, 1965

EDITOR'S NOTE: The April issue of MISSOURI MEDICINE was printed before the 1966 Annual Session of MSMA and the election of new Association officers. For that reason the masthead page still carries the names of the 1965-66 officers. New listings will be found in the May issue.

New Members

Thomas R. Anderson, M.D., Rt. 1, Ashland, has become a member of Boone County Medical Society. Dr. Anderson is a native of St. Louis, received his preliminary education at Baylor University and his M.D. degree at the University of Missouri in 1961. He specializes in psychiatry.

James W. Crain, M.D., Branson, has become a member of Ozarks Medical Society. Dr. Crain is a native of Wichita, Kan., received his preliminary education at Indiana University and his M.D. degree at Indiana University in 1939. He is in general practice.

Aaron D. Freedman, M.D., 4949 Rockhill, Kansas City, has become a member of Jackson County Medical Society. Dr. Freedman is a native of Albany, N. Y., received his preliminary education at Cornell University and his M.D. degree at Albany Medical College in 1945. He specializes in internal medicine.

Fakri M. Hanna, M.D., 708 Hilltop Drive, Columbia, has become a member of Boone County Medical Society. Dr. Hanna is a native of Cairo, Egypt, received his preliminary education at College of Arts and Science, American University of Cairo and his M.D. degree at Foad 1st University Faculty of Medicine (Cairo) in 1940. He specializes in pediatrics.

Alfred C. Ibaviosa, M.D., 121a Mississippi, Crystal City, has become a member of Jefferson County Medical Society. Dr. Ibaviosa is a native of the Philippines, received his preliminary education at Santo Tomas University and his M.D. degree at Santo Tomas University in 1954. He specializes in obstetrics.

W. Alexander Hoja, M.D., Kneibert Clinic, Poplar Bluff, has become a member of Butler-Wayne-Ripley County Medical Society. Dr. Hoja is a native of Krotoszyn, Poland, received his preliminary education at Berea College and his M.D. degree at the University of Louisville in 1957. He specializes in obstetrics.

Arnold U. Kanter, M.D., 30 W. Pershing, Kansas City, has become a member of Jackson County Medical Society. Dr. Kanter is a native of

WHEN THE CLINICAL SITUATION CALLS FOR VITAMIN A–

in vitamin A deficiencies such as acne and other hyperkeratotic dermatological disorders, certain ophthalmic conditions and disorders in which absorption or utilization of fats and fat-soluble vitamins may be impaired.

Kansas City, received his preliminary education at the University of Missouri and his M.D. degree at the University of Nebraska in 1963. He is in general practice.

Robert V. Kirk, M.D., 2316 E. Meyer, Kansas City, has become a member of Jackson County Medical Society. Dr. Kirk is a native of Grandview, Ind., received his preliminary education at Yale and the University of Kansas and his M.D. degree at the University of Kansas in 1947. He specializes in anesthesiology.

Monte R. Kohler, M.D., 108 N. Main, Bolivar, has become a member of Dallas-Hickory-Polk County Medical Society. Dr. Kohler is a native of Norfolk, Neb., received his preliminary education at Central Missouri State College and his M.D. degree at the University of Kansas in 1962. He is in general practice.

John M. Laird, Jr., M.D., 390 W. St. Anthony, Florissant, has become a member of St. Louis Medical Society. Dr. Laird is a native of Warsaw, Missouri, received his preliminary education at Drury College and his M.D. degree at the University of Missouri in 1961. He specializes in internal medicine.

Paul A. Lindquist, M.D., 1940 Highway 152, Liberty, has become a member of Clay County Medical Society. Dr. Lindquist is a native of Kansas City, received his preliminary education at Bethany College and his M.D. degree at the University of Kansas in 1936. He specializes in public health.

Donald L. McCoy, M.D., 1160 S. Redman, Marshall, has become a member of Saline County Medical Society. Dr. McCoy is a native of Nelson, Missouri, received his preliminary education at Central Missouri State College and his M.D. degree at the University of Missouri in 1964. He is in general practice.

Jerry F. McLain, M.D., 330 N. 2nd, Poplar Bluff, has become a member of Butler-Wayne-Ripley County Medical Society. Dr. McLain is a native of Piedmont, Missouri, received his preliminary education at the University of Missouri and his M.D. degree at the University of Missouri in 1961. He specializes in obstetrics.

(Continued on page 298)

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New Members (Cont'd)

Kurt Metzl, M.D., 701 E. 63rd St., Kansas City, has become a member of Jackson County Medical Society. Dr. Metzl is a native of St. Leonard, Austria, received his preliminary education at Washington University and his M.D. degree at the University of Kansas in 1960. He specializes in pediatrics.

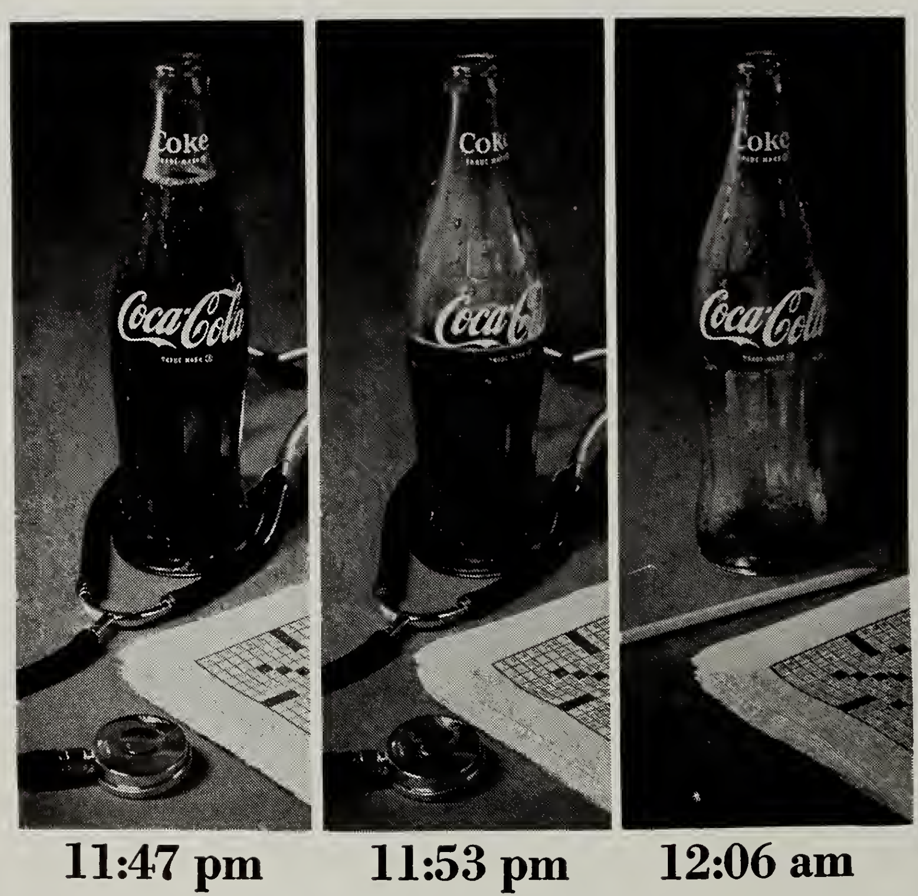
Allen H. Moore, Jr., M.D., Branson, has become a member of Ozarks Medical Society. Dr. Moore is a native of New Market, Va., received his preliminary education at the University of North Carolina and his M.D. degree at the University of North Carolina in 1962. He is in general practice.

Paul Nussbaum, M.D., 1858 Broadway, Cape Girardeau, has become a member of Cape Girardeau County Medical Society. Dr. Nussbaum is a native of Cape Girardeau, received his preliminary education at Southeast Missouri State College, and his M.D. degree at the University of Tennessee in 1955. He specializes in urology.

Donald O. Osborn, M.D., 819 Locust, St. Louis, has become a member of St. Louis County Medical Society. Dr. Osborn is a native of Cheyenne, Wyo., received his preliminary education at Simpson College and his M.D. degree at the University of Nebraska in 1946. He specializes in internal medicine.

Stephen Parks, M.D., Missouri Delta Community Hospital, Sikeston, has become a member of Semo County Medical Society. Dr. Parks is a native of Bristow, Okla., received his preliminary education at Northeastern State College and his M.D. degree at the University of Oklahoma in 1952. He specializes in pathology.

Charles A. Roper, M.D., 1409 Parkview, Poplar Bluff, has become a member of Butler-Wayne-Ripley County Medical Society. Dr. Roper is a native of Rockwood, Tenn., received his preliminary education at Carson-Newman College and his M.D. degree at the University of Tennessee in 1960. He specializes in pediatrics.



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New Members (Cont'd)

J. B. Shields, M.D., 3530 Laclede, St. Louis, has become a member of St. Louis Medical Society. Dr. Shields is a native of Butte, Mont., received his preliminary education at Gonzaga University and his M.D. degree at St. Louis University in 1957. He specializes in radiology.

Henry K. Silberman, M.D., 223 S. 5th St., Columbia, has become a member of Boone County Medical Society. Dr. Silberman is a native of Breslau, Germany, received his preliminary education at Swinger Real Gym. and his M.D. degree at New York School of Medicine in 1950. He specializes in psychiatry.

Jerome H. Thies, M.D., Osceola, has become a member of West Central Missouri Medical Society. Dr. Thies is a native of Kansas City, received his preliminary education at Kansas State University and his M.D. degree at the University of Kansas in 1962. He is in general practice.

George K. Trimble, M.D., 101 Memorial Dr., Kansas City, has become a member of Jackson County Medical Society. Dr. Trimble is a native of Toronto, Canada, received his preliminary education at the University of Missouri and his M.D. degree at the University of Toronto in 1938. He specializes in internal medicine.

Kirby L. Turner, M.D., Potosi, has become a member of Mineral Area County Medical Society. Dr. Turner is a native of Belgrade, Mo., received his preliminary education at the University of Missouri and his M.D. degree at the University of Missouri in 1964. He is in general practice.

Donald M. Wald, M.D., 2800 Hospital Dr., N. Kansas City, has become a member of Clay County Medical Society. Dr. Wald is a native of Oklahoma City, Okla., received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1945. He specializes in radiology.

Raymond E. Yadon, M.D., 815 S. Main, Nevada, has become a member of West Central Missouri Medical Society. Dr. Yadon is a native of Springfield, received his preliminary education at the University of Missouri and his M.D. degree at the University of Missouri in 1953. He specializes in radiology.

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* ESPECIALLY VALUABLE IN U.R.I.
provides decisive therapy in acute respiratory infections and other conditions in which staphylococci, streptococci or mixed flora are frequently encountered

* NOW AVAILABLE IN NEW STRENGTH FOR NEW CONVENIENCE AND ECONOMY
Signemycin 375—high-potency capsules for simpler administration, greater patient economy

YCIN® 375

(tetracycline 250 mg.
triacetyloleandomycin 125 mg.)

Indications: Indicated in the therapy of acute severe infections caused by susceptible organisms and primarily by bacteria more sensitive to the combination than to either component alone. In any infection in which the patient can be expected to respond to a single antibiotic, the combination is not recommended. Signemycin should not be used where a bacteriologically more effective or less toxic agent is available. *Triacetyloleandomycin, a constituent of Signemycin, has been associated with deleterious changes in liver function.* See precautions and adverse reactions.
Contraindications: Contraindicated in individuals who have shown hypersensitivity to any of its components. Not recommended for prophylaxis or in the management of infectious processes which may require more than 10 days of continuous therapy. If clinical judgement dictates therapy for longer periods, serial monitoring of liver function is recommended. Not recommended for subjects who have shown abnormal liver function tests, or hepatotoxic reactions to triacetyloleandomycin.
Precautions and Adverse Reactions: Triacetyloleandomycin, administered to adults in daily oral doses of 1.0 gm. for 10 or more days, may produce hepatic dysfunction and jaundice. Adults requiring 3 gm. of Signemycin initially should have liver function followed carefully and the dosage should be reduced as promptly as possible to the usual recommended range of 1.0 to 2.0 gm. per day. Present clinical experience indicates that the observed changes in liver function are reversible after discontinuation of the drug.
Use with caution in lower than usual doses in cases with renal impairment to avoid accumulation of tetracycline and possible liver toxicity. If therapy is prolonged under such circumstances, tetracycline serum levels may be advisable. In long term therapy or with intensive treatment or in known or suspected renal dysfunction, periodic laboratory evaluation of the hematopoietic, renal and hepatic systems should be done. Formation of an apparently harmless calcium complex with tetracycline in any bone forming tissue may occur. Use of tetracycline during tooth development (3rd trimester of pregnancy, infancy and early childhood) may cause discoloration of the teeth. Reversible increased intracranial pressure due to an unknown mechanism has been observed occasionally in infants receiving tetracycline. Glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis and definite allergic reactions occur rarely. Severe anaphylactoid reactions have been reported as due to triacetyloleandomycin. Photosensitivity and photoallergic reactions (due to the tetracycline) occur rarely. Medication should be discontinued when evidence of significant adverse side effects or reaction is present. Patients should be carefully observed for evidence of overgrowth of nonsusceptible organisms including fungi, which occurs occasionally, and which indicates this drug should be discontinued and appropriate therapy instituted. Steps should be taken to avoid masking syphilis when treating gonorrhea.

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County Society News

FIRST DISTRICT

COUNCILOR
JOSEPH FISHER, M.D., ST. JOSEPH

Buchanan County Medical Society

The annual "Heart" program of the Buchanan County Medical Society was held following a dinner on Wednesday evening, February 2, in the Oak Room of Hotel Robidoux. Speaker was Jack M. Martt, M.D., Director of the Cardiopulmonary Laboratory at the University of Missouri Medical Center. Dr. Martt's topic was, "Electronics and Medicine." His illustrated lecture included slides and descriptions of recently developed EKG equipment and pace makers.

Fifty physicians from St. Joseph and the surrounding area attended the dinner and program. Arrangements were made by the program committee consisting of Charles R. Willman, M.D., Chairman, Richard O. Craig, M.D., and R. Philip Acuff, M.D. Lucien W. Ide, M.D., President-Elect of the Missouri Heart Association, introduced the speaker. William Redmond, M.D., President, presided.

John L. Mothershead, M.D., *Secretary*

Grand River Medical Society

The Grand River Medical Society and Auxiliary held their regular monthly dinner meeting at the Strand Hotel in Chillicothe on Thursday evening, February 10. We were happy to have as guests Dr. Briennen of Chillicothe, Dr. Charles Gilliland of Cameron, Mr. Marvin Platz of Carrollton, and Dr. John Martin of St. Joseph.

Dr. John Martin, a practicing urologist, presented the scientific program entitled, "Some Interesting Urological Problems." His discussion was very interesting and well received.

The Grand River Medical Society will again maintain a hospitality room at the annual MSMA convention in Kansas City and hope all of our friends will drop by and visit us.

Albert D. Cross, M.D., *Secretary*

SIXTH DISTRICT

COUNCILOR
ROLLA B. WRAY, M.D., NEVADA

West Central Missouri Medical Society

The February meeting of the West Central Missouri Medical Society was held in the Harrisonville Hotel on Thursday, February 10. Total attendance was 16. A social hour and dinner preceded the formal meeting of the Society.

The meeting was called to order by Dr. Roy W. Pearse, Jr., Secretary, in absence of the other officers. The scientific portion of the program was given by Dr. Elmer J. Schewe of Columbia, a surgeon who gave a very informative discussion of "Skin Cancer." His talk was well illustrated and was very practical both from the standpoint of diagnosis and treatment of the more common malignant growths of the skin.

The business meeting of the Society followed the presentation of the scientific program. Minutes of the January meeting were read and approved. Correspondence received by the Secretary was presented and discussed. There were no committee reports. The program chairman announced that the next meeting of the Society would be in Butler at Glenn's Cafe on Thursday, March 10, 1966. This meeting will be devoted to a discussion of the important matters coming before the House of Delegates at the annual MSMA meeting.

There being no further matters to come before the Society, the meeting was adjourned.

Roy W. Pearse, Jr., M.D., *Secretary*

EIGHTH COUNCILOR DISTRICT

COUNCILOR
DOYLE C. MCCRAW, M.D., BOLIVAR

Greene County Medical Society

The Annual Banquet and Installation of Officers of the Greene County Medical Society was held Friday, January 28, 1966 in Ozark, Missouri. The evening activities began with a social hour followed by dinner and then a short formal program which included remarks by the retiring President, Dr. William H. Snead, and Dr. William F. Johnson, the incoming President.

Dr. Snead presented the gavel of the Society to Dr. Johnson. In addition to the incoming President, the following officers were installed: President-Elect, Guy D. Callaway, Jr.; Secretary, Ernest Lorenc; Treasurer, Carle H. Schroff; Councilors, James T. Brown, Charles E. Lockhart, Glenn O. Turner, Francis J. Ellis, Harold H. Lurie and Dallas D. Anthony.

Delegates to the Missouri State Medical Association from Greene County are: Stanley S.

(Continued on page 306)

Anatomy of
Low Back Pain #1
the sedentary life
is often the seat of
low back pain

The human spine is not engineered f
prolonged sitting at desks, pianos, typ
writers and drafting boards. The stresse
set up by the heavy, forward-tilted hea
and trunk, balanced precariously on a
insufficient base, result in strain of th
dorsal musculature, particularly at th
low lumbar level.

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prescribed ☐ **to relieve pain** ☐ **to rela
muscles** ☐ **to restore mobility.**

Indications: 'Soma' is useful for management
muscle spasm, pain, and stiffness in a variety
inflammatory, traumatic, and degenerative musc
loskeletal conditions. It also may act to normali
motor activity in certain neurologic disturbance

Contraindications: Allergic or idiosyncratic rea
tions to carisoprodol.

Precautions: 'Soma', like other central nervo
system depressants, should be used with cauti
in patients with known propensity for taking e
cessive quantities of drugs and in patients w
known sensitivity to compounds of similar che
cal structure, e.g., meprobamate.

Side Effects: The only side effect reported with a
frequency is sleepiness, usually on higher th
recommended doses. An occasional patient m
not tolerate carisoprodol because of an individu
reaction, such as a sensation of weakness. Oth
rarely observed reactions have included dizzines
ataxia, tremor, agitation, irritability, headache, i
crease in eosinophil count, flushing of face, a
gastrointestinal symptoms.

One instance each of pancytopenia and leuk
penia, occurring when carisoprodol was admi
istered with other drugs, has been reported, as h
an instance of fixed drug eruption with carisoprod
and subsequent cross reaction to meprobamat
Rare allergic reactions, usually mild, have includ
one case each of anaphylactoid reaction with mi
shock and angioneurotic edema with respirato
difficulty, both reversed with appropriate therap
In cases of allergic or hypersensitivity reaction
carisoprodol should be discontinued and approp
ate therapy initiated. Suicidal attempts may pr
duce coma and/or mild shock and respirato
depression.

Dosage: Usual adult dose is one 350 mg. tabl
three times daily and at bedtime.

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COMMENT . . .

Our Readers Write

Arthur W. Neilson, M.D.
3720 Washington Blvd.
St. Louis, Missouri 63108

Dear Art:

Congratulations to you for your editorial in Missouri Medicine for February. It is very well written and, coming from a practicing physician, I feel it will carry much more weight than similar appeals Public Health people have been making for many years. We simply cannot make maximum headway in the control of the Venereal Diseases as long as a sizable proportion of infectious cases escape epidemiological investigation. With your leadership in this area, I believe the rest of us can promote this concept with greater assurance.

Many thanks!

Sincerely,
E. A. BELDEN, M.D., M.P.H.
Communicable Disease Consultant
Missouri Division of Health

County Society News (Cont'd)

Peterson, Robert W. Maher, Edwin M. Powell and William H. Snead. Alternate Delegates: Howard J. McAlhany, David F. Gorelick, William I. Park, Jr., and M. D. Bonebrake.

Dr. James T. Brown, Chairman of the Social Committee for 1966, presided as master of ceremonies in excellent fashion and set the proper stage for the special entertainment of the evening, Mr. Bob Holt, of St. Louis, "The Man of a Thousand Voices."

Two hundred and eleven people, including members, their wives and guests, attended the annual event.

Ernest Lorenc, M.D., *Secretary*

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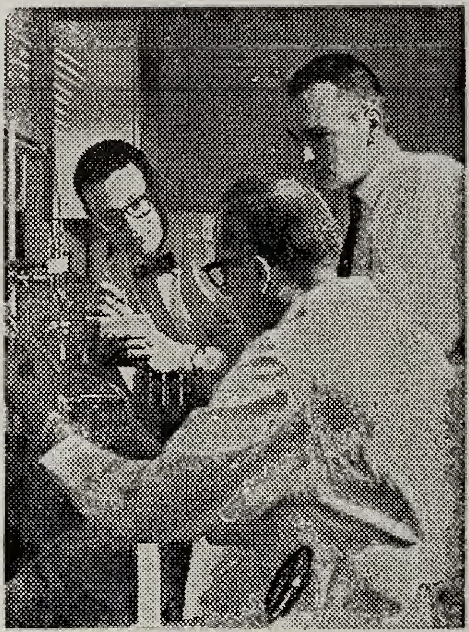

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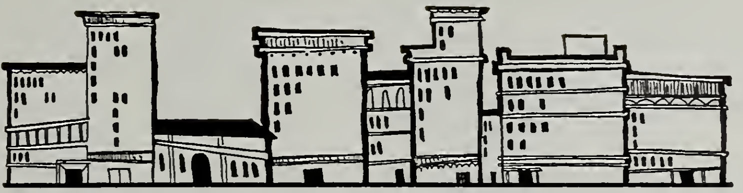
From the Medical Schools



ST. LOUIS UNIVERSITY

Dr. Walter T. Gunn, Treasurer of MSMA, has been named chairman of the Physician's Unit of the Sponsors Division of the St. Louis University Medical Center Campaign. Dr. Gunn, a 1931 graduate of the St. Louis University School of Medicine, will be responsible for the solicitation of $750,000 from local medical alumni and medical friends. Total Sponsors Division goal is $1,500,000.

A Psychiatric Problems Seminar for practicing physicians will be presented by the University's Department of Neurology and Psychiatry and by Metropolitan College Wednesday, April 13 from 9 AM to 12:30 PM at the David P. Wohl Memorial Mental Health Institute, 1221 S. Grand Blvd. Moderator will be Dr. Arnold S. Block, assistant professor of clinical psychiatry. Registration fee is $5.00. Further information may be sought by contacting Eugene J. Hanses, coordinator of Continuing Medical Education, 221 N. Grand Blvd., St. Louis 63103.

WASHINGTON UNIVERSITY

A new medical sciences building will be constructed at Washington University School of Medicine. This addition is made possible by a gift of $4-million from James S. McDonnell, a member of the Washington University Board of Trustees, and a United States Public Health Service grant. The $8.9-million multi-story structure will be east of the present Medical School buildings. Approximately 200,000 square feet will provide expanded research and teaching facilities for the departments of biochemistry, pharmacology, anatomy, physiology and microbiology, and for the post-doctoral training program. Tentatively scheduled for completion by 1968, the medical sciences building will permit a 30% increase in medical student capacity.

Eight senior students at the School of Medicine presented reports on research conducted during their medical school years at an assembly during March. The work of these students was selected from 65 research reports submitted by 46 students.

Memorial services for Dr. Arthur Proetz, who died January 31, were held in February by the Department of Otolaryngology of the School of Medicine. Dr. Proetz was a faculty member of the department for all his professional career, during which he wrote 97 scientific papers and three books. His book *The Applied Physiology of the Nose* is a standard text for rhinologists.

The first St. Louis use of an electron beam for treating cancer has begun at the School of Medicine. An electron beam conversion has been installed on the 24-million volt betatron in the Mallinckrodt Institute of Radiology and is being used for treating certain tumors. Chief advantage of the electron beam is that it can treat the outer layer of the body without affecting inner structures. The treatment is sharply defined, and the beam does not penetrate below a specified level.

UNIVERSITY OF MISSOURI

Dr. William D. Mayer, Associate Dean, has been appointed Special Consultant to the Chief, Division of Regional Medical Programs, at the National Institutes of Health. The appointment was announced by Division Chief, Dr. Robert Q. Marston. Dr. Mayer has been granted a 15½ month leave of absence to permit him to accept this appointment. The new Division of Regional Medical Programs will administer grants to encourage the medical institutions and medical profession of the nation to join in regional cooperative programs for a direct assault on the three major killing diseases: heart disease, cancer, and stroke.

Dr. Roland Leeson has been named chairman and professor of anatomy at the School of Medicine, effective July 1. He succeeds Dr. Milton D. Overholser, who retires as chairman and returns to full time teaching at that time. Dr. Leeson has been professor of anatomy at the University of Iowa since 1963.

Dr. Philip C. Anderson, assistant professor of dermatology, has been named a Markle Scholar. Twenty-five young physicians in the U. S. "who demonstrate unusual promise in academic medicine" are selected annually by the John and Mary R. Markle Foundation for this honor. The title carries with it an award of $30,000 which is distributed over a five-year period to aid in the development of the recipient's academic and research interests. Three other members of the Missouri faculty currently holding Markle awards are: Dr. Mayer; Dr. Ernest McCoy, associate professor of pediatrics; and Dr. D. A. B. Lindberg, assistant professor of pathology and director of the computer program at the Medical Center.

CLASSIFIED ADS

FOR SALE—Brand new pediatric examining-treatment table with built-in scale, examining table, Jones BMR, Cardiotron ECG machine, Burroughs Sensimatic bookkeeping machine, ideal for Medical Group or Clinic, multiple phone, central dictaphone with four hand sets, cold quartz mercury treatment lamp, American Optical Projecto-chart, Ritter motor driven hydraulic examining and Proctology table. Phone—MIssion 7-5150, St. Louis, Mo.

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ASSOCIATE WANTED—Well established Internist practicing in mid-town St. Louis Medical Building—specializes in cardio-pulmonary diseases, is looking for an associate. Rapid partnership opportunity so that retirement can be accomplished within a year or so. Must have good medical schooling with special training in cardiology and liking for diseases of chest. For further information, contact Box 323, c/o Missouri State Medical Association, 634 N. Grand Blvd., St. Louis, Mo. 63103.

WANTED—INTERNIST, Board eligible or Certified. To be associated with twelve man specialty group; salary open; no investment; early partnership; progressive city of 35,000 in central Texas. Write J. D. Wilson, M.D., Kings Daughters Clinic, Temple, Texas.

WANTED—Associate or partner in large general practice—fulfilling and rewarding. Starting income $2,000 monthly. For further information write Box 322, c/o Missouri State Medical Association, 634 N. Grand Blvd., St. Louis, Mo. 63103.

WANTED—General Practitioner to associate in Group Practice. Modern office facilities and accredited hospital. Adequate guaranteed income to start and increases leading to full partnership. Contact Eugene B. Robichaux, M.D., Excelsior Springs, Mo.

FOR SALE—Picker X-Ray equipment, motor-driven table, spot filmer, two rotating-anode tubes, 200 M.A., one owner since 1953. For information contact Box 328, Missouri State Medical Association, 634 N. Grand Blvd., St. Louis, Mo. 63103.

FOR SALE—Wappler cold cautery with accessories. Contact Box 326, c/o Missouri State Medical Association, 634 N. Grand Blvd., St. Louis, Mo. 63103.

WANTED—General Surgeon who has recently completed training and fulfilled his military obligations to associate with a small group in St. Louis. The work involves industrial and general surgery. Salary for the first two years and full partnership at the end of this period. Discussion of terms open. Contact Box 329, Missouri State Medical Association, 634 N. Grand Blvd., St. Louis, Mo. 63103.

GENERAL PRACTICE VACANCY exists in a town of approximately 25,000. Well established for over 15 years. Gross exceeds $40,000. Hospital privileges available and will introduce if desired. Building and equipment available. Write Box 320, c/o Missouri State Medical Association, 634 N. Grand Blvd., St. Louis, Mo. 63103.

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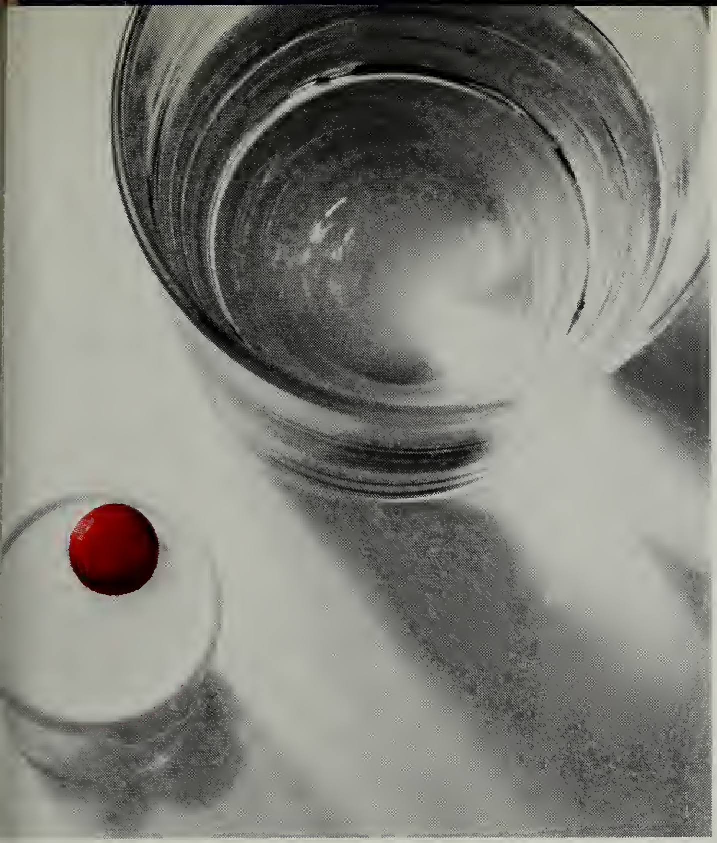
INTERNIST—for 5-man department in busy and steadily growing northcentral Kansas 13-member multispecialty group. Partnership after salary for two years. Board eligible or Certified. Contact, Gerald R. Arnold, Business Manager, Gelvin-Haughey Clinic, Concordia, Kansas.

FOR RENT—Psychiatric office in modern medical center near Barnes and Jewish Hospitals. Share waiting room and secretarial area with two other psychiatrists. Contact Thomas Thale, M.D., 1221 S. Grand Blvd., St. Louis, Missouri 63104.

FOR SALE—Bucky table; film bin, cassette storage area and waste bin for X-ray dark room; Birtcher EKG; Proctoscope and new Anoscope; Set-up for D & C; Miscellaneous supplies and surgical instruments; Coleman Spectrophotometer, new. Contact William W. Bradley, M.D., 120 N. Rollins, Centralia, Missouri 65240.

PSYCHIATRIC RESIDENCIES—July 1, 1966, 600 bed psychiatric hospital with active out-patient department for adults and children. Intensive training program directed toward Board certification. NIMH grant of $12,000 annually to General Practitioner or physicians with four or more years experience in other than psychiatry. Write to: Dr. W. C. Brinegar, Superintendent, Mental Health Institute, Cherokee, Iowa.



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Precautions and Side Effects — Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken. Use of demethylchlortetracycline during tooth development (last trimester of pregnancy, neonatal period and early childhood) may cause discoloration of the teeth (yellow-grey-brownish). This effect occurs mostly during long-term use but has also been observed in short treatment courses. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment. Side reactions include glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis and dermatitis. If adverse reaction or idiosyncracy occurs, discontinue medication and institute appropriate therapy. Anaphylactoid reactions have been reported.

Average Adult Daily Dosage: 150 mg q.i.d. or 300 mg b.i.d. should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products.

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Notes of interest from Here . . . . and There

Hugh L. Dwyer, M.D., has retired as Health Director of Kansas City, Missouri. He had held the position since 1940, longer than anyone in the city's history. Doctor Dwyer served 16 years as professor of clinical pediatrics at the University of Kansas Medical Center before going into city service in 1939 as a consultant on child hygiene. He was named Health Director the following year after a "clean-up" campaign drove the old Pendergast political machine out of City Hall. Doctor Dwyer's successor is **John R. Philp**, M.D., former acting deputy director of Health for New York City.

Gerald L. Miller, M.D., was installed as President of the Kansas City Southwest Clinical Society at its recent annual business meeting. He succeeds **William T. Sirridge**, M.D. For more than 40 years the Society has sponsored annual postgraduate conferences which attract physicians from throughout the area.

Richard Krause, M.D., assistant professor of medicine in the Department of Preventive Medicine at the Washington University School of Medicine, has been awarded an unrestricted grant for medical research from Wyeth Laboratories, pharmaceutical manufacturer. The company presents a limited number of unrestricted grants each year to leading U. S. medical schools and hospitals to further medical research.

The Woman's Auxiliary to the St. Louis County Medical Society reports another sell-out for its annual Community Service luncheon. The program this year was titled, "Booze, Fags and Fixes!" In translation this title emerges as an audience-participation-panel-discussion of the medical and health aspects of alcoholism, smoking and narcotics. Drs. **Joseph B. Kendis**, **James Hasenmueller** and **Jack Eidelman** served as panelists.

Earl R. Knox, M.D., Kansas City North, is the new chief of the medical staff at Trinity Lutheran Hospital. . . . **Rosemary R. Larkin**, M.D., has been elected President of the medical staff of Incarnate Word Hospital, St. Louis. . . . **George A. Oliver**, M.D., Farmington, has been elected chief of staff at the Madison Memorial Hospital, Fredericktown. . . . **George M. Ragsdale**, M.D., has been reappointed Monroe County Health Officer.

A 20-page booklet on medical gases produced by the National Cylinder Gas division of Chemetron Corporation is now available. The booklet presents basic information on physical and chemical characteristics of therapeutic and anesthetic gases, and thumbnail histories of the gases. It does not give guidance for the administration of medical gases, but it contains information that can help promote safe practices.

In Memoriam

Boone, Richard F., M.D., Dallas, Texas, a graduate of Kansas City Medical College, 1920; member of Butler-Wayne-Ripley County Medical Society; aged 69; died December 30, 1965.

Welker, Joseph E., M.D., Kansas City, a graduate of the University of Kansas, 1921; member of Jackson County Medical Society; aged 73; died December 30, 1965.

Homan, Joseph S., M.D., St. Louis, a graduate of St. Louis University, 1917; member of St. Louis Medical Society, aged 85; died January 10, 1966.

Fessenden, Ersel M., M.D., Springfield, a graduate of Rush Medical College, 1915; member of Greene County Medical Society, aged 82; died January 12, 1966.

Spence, Elbert L., M.D., Kennett, a graduate of Tulane University, 1915; member of Dunklin County Medical Society; aged 77; died January 16, 1966.

Turner, Percy C., M.D., Kansas City, a graduate of Meharry College, 1925; member of Jackson County Medical Society; aged 76; died January 19, 1966.

Langeluttig, Harry V., M.D., Mt. Vernon, a graduate of the University of Maryland, 1931; member of Ozarks Medical Society; aged 61; died January 31, 1966.

Proetz, Arthur W., M.D., St. Louis, a graduate of Washington University, 1912; member of St. Louis Medical Society; aged 77; died January 31, 1966.

Stude, William C., M.D., Clayton, a graduate of Johns Hopkins University, 1924; member of St. Louis County Medical Society; aged 67; died February 24, 1966.

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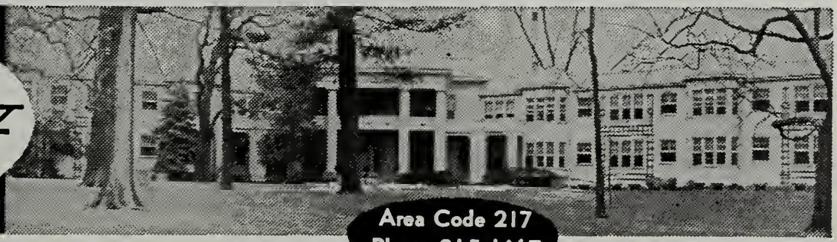

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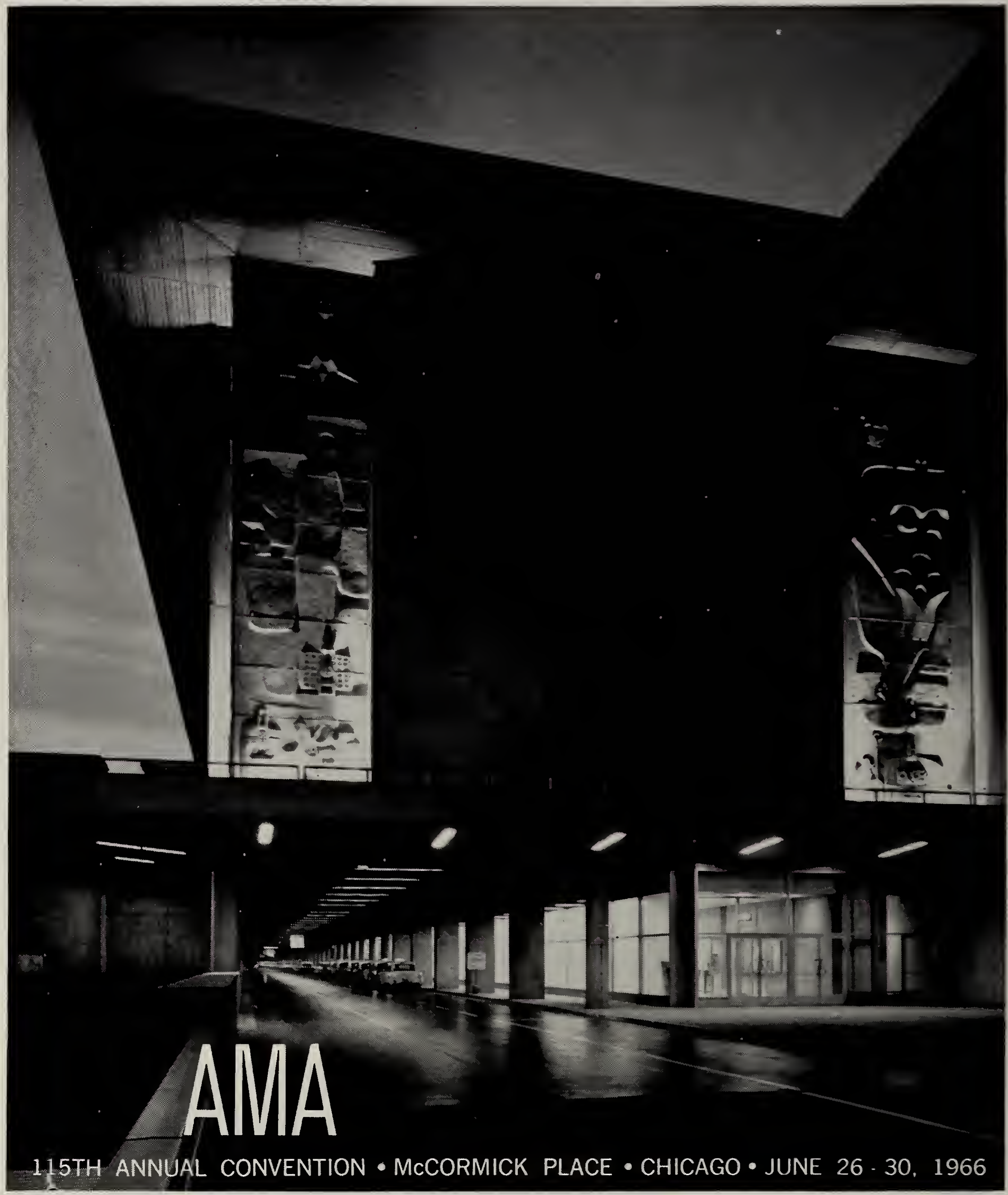
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See JAMA May 9 for complete scientific program—forms for advance registration and hotel accommodations.

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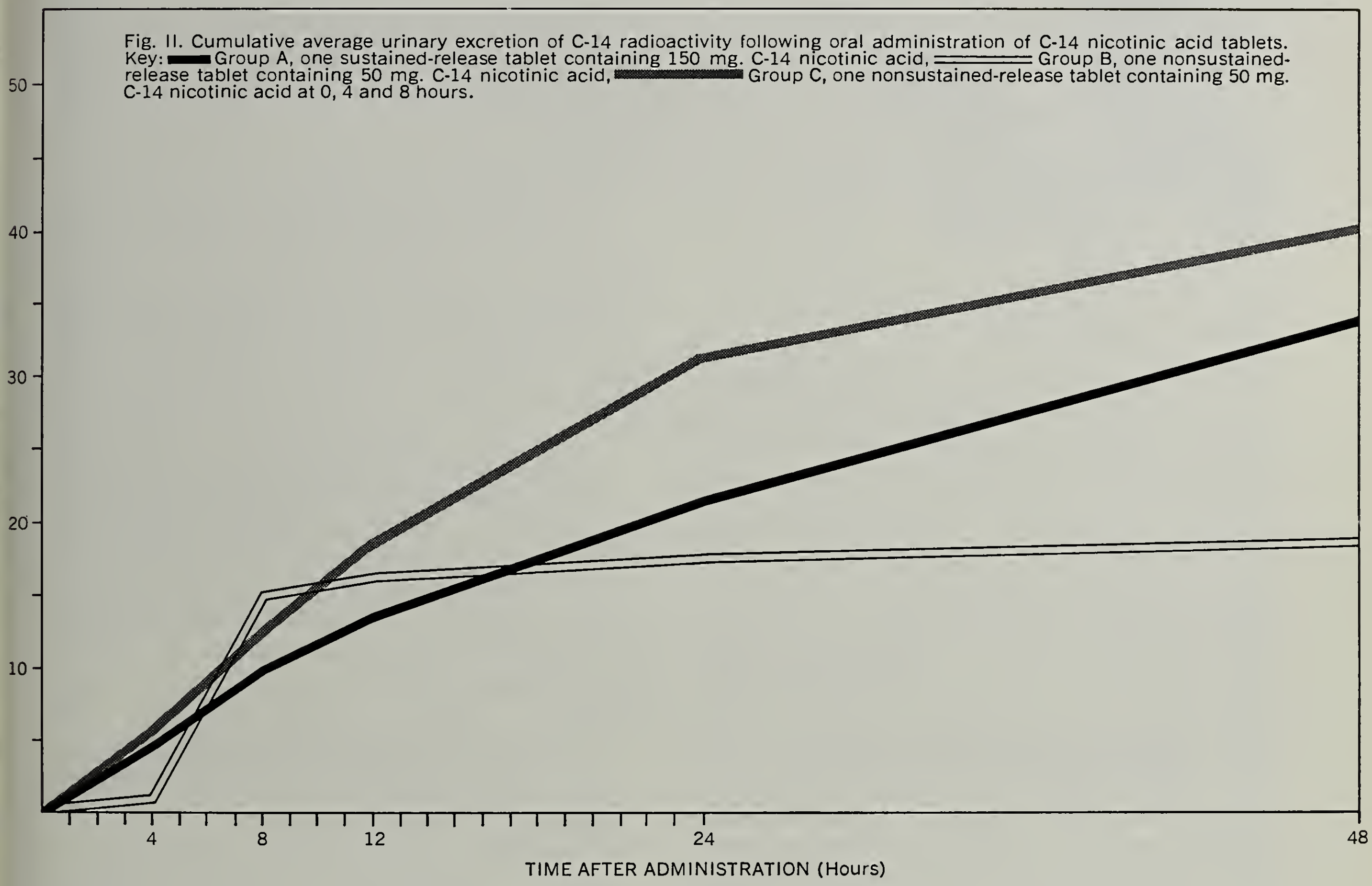

Fig. II. Cumulative average urinary excretion of C-14 radioactivity following oral administration of C-14 nicotinic acid tablets. Key: ▬ Group A, one sustained-release tablet containing 150 mg. C-14 nicotinic acid, ═ Group B, one nonsustained-release tablet containing 50 mg. C-14 nicotinic acid, ▨ Group C, one nonsustained-release tablet containing 50 mg. C-14 nicotinic acid at 0, 4 and 8 hours.

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Dosage: One tablet every 12 hours.

Supplied: Prescribe bottles of 100 tablets, to take advantage of recent price reduction.

References: 1. Report by Nuclear Science & Engineering Corp., Pittsburgh, Pa., in files of Philips Roxane Laboratories. 2. Connolly, R.: W. Virginia Med. J. *56*:263 (Aug.) 1960. 3. Curran, T. R., and Phelps, D. K.: Am. Pract. & Digest Treat. *11*:617 (July) 1960.

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Missouri Medicine in Review

FORTY YEARS AGO

Dr. Samuel A. Murray of Holden was nominated for mayor on the Citizens' ticket. He is a native of Holden and served in the World War. Dr. Murray is a member of the Johnson County Medical Society.—On February 5 the annual banquet of the Kansas City Academy of Medicine was held at the Mission Hills Country Club. The attendance was the largest in the history of the Academy. The guest of honor and speaker of the evening was Dr. J. J. Macleod, Professor of Physiology, University of Toronto, in whose laboratories Doctors Banting and Best made their remarkable discoveries of insulin.

Dr. H. E. Pearse, Health Director of Kansas City has issued orders against the distribution of patent medicines in the city without a permit. Dr. Pearse said he had received several complaints about drugs and medicines being thrown promiscuously in the residential section and declared that he would require a strict enforcement of the ordinance against such distribution.

In his report filed with the Supreme Court on March 6, Special Commissioner Edwin J. Bean recommended that the charters of the St. Louis College of Physicians and Surgeons and of the Kansas City College of Medicine and Surgery, both of which were repeatedly mentioned in the exposure of the medical "diploma mills," be revoked. It will be recalled that last July the Honorable Robert W. Otto, then Attorney-General and now a Justice of the Supreme Court, brought suit against the colleges for violation of their charters.

TWENTY-FIVE YEARS AGO

A new use for the stethoscope is reported by the London correspondent of *JAMA*. In the March 15 issue he says: "In gratitude for his work in removing delayed action bombs which fell in the east end of London, Capt. Robert Davies, who is in command of the bomb disposal squad, has been presented with a stethoscope by the resident staff of one of the hospitals. He has frequently borrowed a stethoscope from the hospital in order to listen to the ticking of delayed action bombs before removing them."

Four members of the graduating class of 1881 of the St. Louis Medical College held their 16th class reunion on March 3 in St. Louis. Those attending were Drs. Max C. Starkloff, Willis Hall, Amand Ravold and James A. Dickson. Dr. William V. Guttery, Middleton, Illinois, the only other living member of the class, was not present.

The Northwest Missouri Medical Society held a dinner meeting at the Linville Hotel, Maryville, March 3 with the president, Dr. Samuel E. Simpson of Stanberry, presiding.—The Scott County Medical Society met at the Sikeston General Hospital, February 19. The following officers were elected: President, Dr. E. J. Nienstedt, Sikeston; Vice President, Dr. G. W. H. Pressnell, Sikeston; Secretary-Treasurer, Dr. W. O. Finney, Chaffee; Board of Censors, Drs. H. M. Kendig and H. A. Dunaway, Sikeston, and G. T. Dorris, Illmo.

TEN YEARS AGO

Hosts for the 98th Annual Session of the Missouri State Medical Association will be the St. Louis Medical Society and the St. Louis County Medical Society. The General Committee on Arrangements is composed of Drs. R. O. Muether, St. Louis, Ben M. Bull, Ironton and Joseph C. Creech, Troy.—Recently elected officers of the medical staff of St. Luke's Hospital, Kansas City, are: Richard H. Kiene, President; Druery Thorn, President-Elect; Ernest L. Glasscock, Vice President, and John H. Gaskins, Secretary.

After 38 years of service with the St. Louis Medical Society, Miss Aileen M. Patton retired on February 1. On March 18, 1918, Miss Patton went to the Society from the office of the Missouri State Medical Association. The Society then was located at 3525 Pine Street, moving to its present location in 1926. Miss Patton has served under 39 presidents of the Society, and on February 9 the Past Presidents' Club honored her at a dinner at the University Club.

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Illustrations should be glossy prints or drawings in India ink on white paper. They should not be mounted and name of author and figure number should be penciled lightly on the backs. Legends should appear on a separate sheet. Colored illustrations will be used when suitable if author assumes the actual cost.

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MSMA Okays Office Move, Dues Hike and Reapportionment

The Executive Office of the Missouri State Medical Association will be moved from St. Louis to Jefferson City as a result of action taken at the Association's 108th Annual Session, held in Kansas City, March 27-30. More than 600 physicians were on hand for meetings of the House of Delegates and the various scientific presentations which were scheduled during the four-day meeting.

The proposal to move the Executive Office has been debated almost annually for several years. A special committee of the MSMA Council had been investigating the subject during the past year and, although the committee requested time for additional work, the House asked for a final report and recommendation in order to resolve the question this year. The recommendation was to move the Office. The committee indicated that much of the evidence which it had collected pointed to the state capitol city as the logical and practical location for the Office, primarily because of the ever increasing government involvement in medical and health affairs. The committee pointed out that contacts with such agencies as the Division of Health, Division of Welfare and Division of Mental Diseases have been increasing rapidly and apparently will continue to increase "to the point that day by day contact with these agencies will become mandatory."

The House of Delegates also approved a plan for reapportioning itself by giving larger local medical societies greater representation without reducing the representation of the smaller societies. A similar proposal met with stiff opposition in the 1965 session but the plan was approved without a dissenting vote by this year's meeting.

There was no opposition to a Council recommendation that MSMA dues be increased by $10.00 a year.

Hector W. Benoit, Jr. of Kansas City was elected President-Elect of the Association. He had served during the past year as Chairman of the Council and also headed the special committee which investigated the question of the Executive Office location. Byron M. Stuart of Boonville was installed as the 1966-67 MSMA President, succeeding Paul R. Whitener of St. Ann. Doctor Whitener will continue to serve as a member of the Council as the result of a constitutional amendment which received final approval during the meeting. It provides that immediate Past Presidents shall be Councilors for the one year following their terms of office.

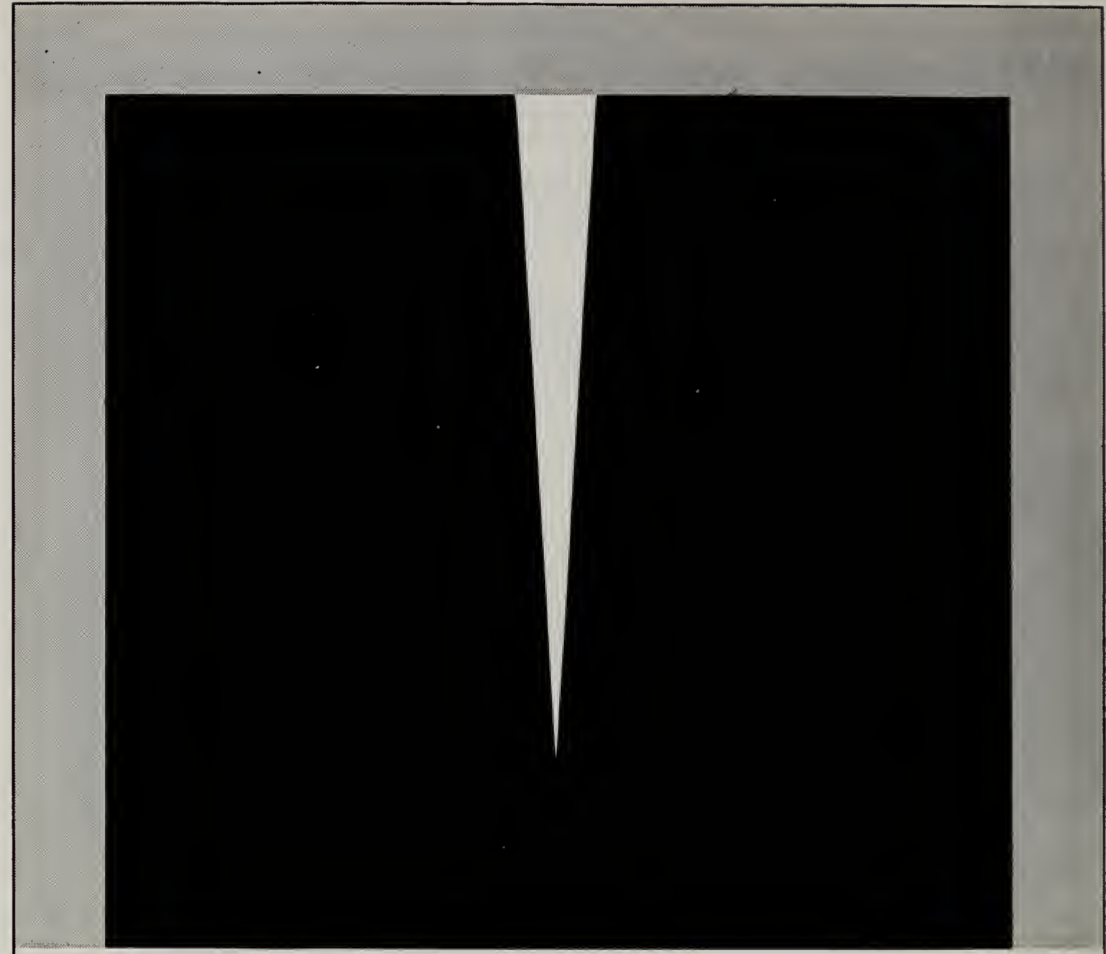
Other new or re-elected officers are: Vice Presidents, B. J. Bass of Salem, George W. Winn of Boonville and Fred L. Wommack of Crane; Delegates to the AMA, Stanley S. Peterson of Springfield and J. Loren Washburn of Versailles; Alternate Delegates to the AMA, James C. Sisk of St. Louis County and Thompson E. Potter of St. Joseph; Speaker of the House, Doctor Peterson; Vice Speaker, Paul F. Max of St. Louis.

At the Council meeting which followed the final session of the House, David N. Kerr of St. Louis was elected Chairman of the Council and Doyle C. McCraw of Bolivar was named Vice Chairman. John I. Matthews of Jefferson City was re-elected MSMA Secretary. Walter T. Gunn of St. Louis was re-elected MSMA Treasurer.

The House of Delegates approved several resolutions which outline MSMA policy and position relating to Public Law 89-97 ("Medicare") and its implementation. One resolution defines "as unethical any arrangements between a medical doctor and a hospital which results in the physician's fee for his services being merged with the institution's charges." The resolution does not become effective until July 1, 1967.

Another position statement which was approved proposes that voting members of hospital utilization review committees be practicing physicians who are elected from their own medical staffs and who may be compensated for time and services which are directly related to an "insurance administrative capacity role." Another proposal that utilization review committees concern themselves only with patients who are hospitalized under "Medicare" was defeated.

The House adopted a general policy resolution concerning PL 89-97 which parallels a position statement which was issued earlier this year by the Council. The individual physician remains free to decide for himself whether he will "participate" in the federal program or not. The Medical Association remains free to work for



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changes in the Law when it becomes apparent that changes are needed to maintain good medical practice and the best interests of the patient. Still another resolution which was approved endorses Missouri's full participation in Title XIX and notes that physicians' services are included as part of the program.

In connection with physicians' services and remuneration for services, the House declined taking any official position at this time on the "prevailing fee" concept. The subject of "prevailing fee" vs. "usual and customary fee" was referred back to the Council for further study and possible recommendation.

The House authorized creation of several new committees. A Committee on Legislative Matters will be charged with keeping abreast of proposals and developments in the state legislature relating to medical and health affairs. A Committee on Specialty Medicine Groups will be composed of representatives from all specialties, including the Missouri Academy of General Practice, and will serve as liaison agent between the specialties and MSMA. A Medical Legal Committee will be available to meet with a similar committee of the Missouri Bar to discuss problems which the two professions have in common.

A special Committee on Nursing and Paramedical Personnel will be formed to look into problems relating to shortages in those ancillary fields. A special Committee on Alcoholism was authorized to make a study of that problem and to offer the Governor assistance in establishing a statewide program on alcoholism.

In other actions the House: approved a program to promote courses of health education in primary and secondary schools; suggested the installation of appropriate highway signs to inform motorists of the location of the nearest medical facilities; authorized preparation of a legislative proposal which would give paramedical and ancillary medical personnel legal identification and would bring them under the jurisdiction of the Board of Registration for the Healing Arts.

The 109th Annual Session of the Association will be held in St. Louis, April 6-9, 1967.

(The official minutes of the 108th Annual Session of MSMA will be published in the July issue of Missouri Medicine.)

Are You Covered?

Discussion of utilization review and the physician's role as a member of a utilization review committee raises a point which every physician should be aware of. This relates to the potential legal liability on the part of committee members, collectively or individually. The AMA and HEW both are aware of the problem and both have it under study. It appears that protective legislation of some sort will be the final solution.

Individual physicians, meanwhile, are advised to examine their malpractice insurance coverage. Policies which conform to the standards of the National Bureau of Casualty Underwriters usually provide the recommended protection in a phrase such as, "Acts or omissions of the Insured as a member of a formal accreditation or similar professional board or committee of a hospital or professional society."

All physicians are encouraged to check with their insurance advisors or legal counsel. Be certain that your actions as a member of a utilization review committee or any other professional committee of your hospital or medical society are protected.

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Notes of interest from Here . . . . and There

Robert W. Bartlett of St. Louis has been installed as President of the Missouri State Surgical Society for the 1966-67 year. Other new officers are: **John A. Growdon** of Kansas City, President-Elect; **Melvin C. Kasten** of Cape Girardeau, Vice President; and **Howard E. Linville** of Kansas City, Secretary-Treasurer. . . . Two long-time St. Louis physicians have been presented Awards of Merit by the St. Louis Medical Society. Dr. **Edwin C. Ernst** was honored for his achievements as a pioneer in radiology. Dr. **Alphonse McMahon** was cited for his work in internal medicine.

From the AMA: **Richard A. Sutter** of St. Louis has been reappointed as a member of the Council on Occupational Health. **Robert E. Shank** and **Robert E. Olson** both of St. Louis have been reappointed to the Council on Foods and Nutrition. **Oscar P. Hampton, Jr.** of St. Louis has been reappointed to the Council on National Security. **Sol Sherry** of St. Louis has been reappointed to the Council on Drugs. . . . **Solomon Garb**, Associate Professor of Pharmacology, M.U. School of Medicine, has been named a consultant for the 1966 edition of *New Drugs,* an annual review published by the AMA.

The St. Louis Psychoanalytic Society held its first formal business and scientific meeting this spring. The Society was formed to foster scientific discourse among psychoanalysts and experts in other areas of behavioral sciences, to stimulate interest in the study of psychoanalysis and to maintain standards of practice and research in this area of interest. Officers for the 1966-67 year are: **Alex Kaplan**, President; **Hyman Fingert**, Vice President; **John W. Higgins**, Secretary; and **Paul Dewald**, Treasurer.

Dr. **John T. Logue** of Columbia is serving a two-month tour of duty aboard the hospital ship, S.S. *Hope,* off Corinto, Nicaragua. Thirty-two volunteer American physicians are taking part in the current teaching-treatment tour which is planned primarily to bring modern medical knowledge to physicians, nurses and medical technicians in underdeveloped areas of the world. . . . **Leo H. Pollock** of Kansas City presented several lectures on breast cancer during a recent visit to South America. One presentation was made in Rio de Janeiro before a joint meeting of the Brazilian College of Surgeons and the International College of Surgeons.

The 77-year-old Jackson County Medical Society Library has been transferred to the University of Missouri School of Medicine and will be operated as a part of the Kansas City campus of the School. The library was started informally in 1889 in the office of Dr. Joseph R. Sharpe who served as the Society's first librarian. Since that time the facility has grown into a 35,000 volume library, valued at more than $300,000. During the first 77 years, library operation and acquisition expenses were financed by the physician-members of the Medical Society, and last year nearly $20,000 of their Society dues was allocated to the Library fund.

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A. DENTON VAIL, M.D. *and* FRED C. COLLER, M.D., *Springfield*

The Number and Location of Parathyroid Glands

Recovered From 202 Routine Autopsies

Although the physical characteristics of the parathyroid glands are mentioned in all textbooks of anatomy and have been described in detail in several excellent reviews[1-3] and the general literature, the loss of parathyroid tissue, due either to accidental excision or trauma during thyroid surgery, is usually the result of failure to recognize these structures. Should the patient be so fortunate as to lose not more than one gland he may never present clinical evidence of hypoparathyroidism. A few, however, will develop mild symptoms which will disappear in a few weeks as the remaining parathyroids develop a compensatory increase in function. Should a loss of two or more parathyroids occur, permanent hypoparathyroidism usually develops and is frequently a catastrophe for the patient even when good control can be achieved by therapy.

There are four major requirements for maximum safety of the parathyroid glands during surgery: (1) the ability to recognize these structures grossly with a high degree of accuracy, (2) an acute awareness of the possible presence of these glands in the surgical field, (3) the development of a surgical technique which insures a dry field and (4) a knowledge of the areas in which parathyroid glands will most frequently be found.

Since parathyroids are so extremely variable in size, shape and color it is obvious that a knowledge based essentially on the descriptive literature is inadequate for a high degree of accuracy in recognition and for distinguishing these structures from the wide assortment of lymph nodes, thyroid nubbins and fat lobules which abound in the surgical field. The ability to recognize parathyroids will, therefore, be gained most effectively by having actually dissected and confirmed by microscopic section a large number of these glands.

The surgeon must be constantly on the lookout for parathyroid glands during every thyroidectomy, carefully noting each such gland as the operation progresses. Those parathyroids on the surface of the thyroid are usually easily identified. If one of these is found within the area of

An interesting reminder of the danger which parathyroid glands are subjected to during every thyroidectomy. The authors outline safeguards which should be taken to protect these glands during surgery. The principal emphasis in this paper is on the patterns of location and distribution of the parathyroids and on the importance for the surgeon to know these patterns. Doctors Vail and Coller are in the private practice of medicine in Springfield.

TABLE 1

Total autopsies	202
Glands found	768
Average per specimen	3.8

Glands Per Specimen

	%
1	2.5*
2	4.5*
3	12.0
4	76.0
5	5.0
6	0

* Inadequate.

excision it can easily be freed from the surface by sharp dissection and, together with its blood supply, pushed out of the operative field. Those parathyroids lying on the medial surface of the thyroid lobe are most vulnerable, since their identification is not usually made until the thyroid has been excised. A few will be buried between lobulations of the thyroid; however, their identification usually is not difficult because normally there will be a portion of the parathyroid exposed to view and recovery is easy. Since an occasional parathyroid will be overlooked and removed in spite of all precautions, it should always be a part of the surgical routine to wash and inspect all excised thyroid tissue for the presence of parathyroids before the specimen is allowed to leave the sterile field. Parathyroids which have thus been removed or which have been separated from the blood supply can be immediately reimplanted without loss to the patient.

A dry surgical field is always desirable, but it is essential in thyroid surgery because parathyroids in contact with blood become discolored, along with other structures of similar size, making accurate identification extremely difficult. A dry surgical field is easily assured by ligation of the superior and inferior thyroid arteries at the beginning of the operation. This also is essential for the safe exposure and protection of the recurrent nerve. To allay any fears that such ligation will result in hypoparathyroidism through interference with the blood supply, it can be stated that after having ligated these vessels bilaterally in well over 2,000 thyroidectomies, parathyroid function has not been altered in any measurable way by the procedure.

The final requirement, a knowledge of the number, location and distribution of the parathyroids, is the subject to which this report is chiefly directed.

Materials and Methods

Specimens were obtained from routine autopsies, each consisting of the structures within an area extending laterally to include the carotid and from the top of the larynx to the greatest distance below which could be reached with the scalpel. In most cases this was approximately two inches below the sternal notch. Dissections were done after fixation in formalin. Drawings, approximately life size, were made of each specimen on blanks of trachea and larynx showing A-P and both lateral views, recording thyroid lobes, superior and inferior thyroid arteries and exact location of parathyroid glands. Total weight of the parathyroids was determined, after which microscopic sections of each parathyroid were made. Separate blocks were made for any in which the gross diagnosis was in question.

Results

Previous reports are in general agreement that most commonly there are four parathyroid glands with an average combined weight of from 25 mg to 40 mg. This report covers 202 specimens

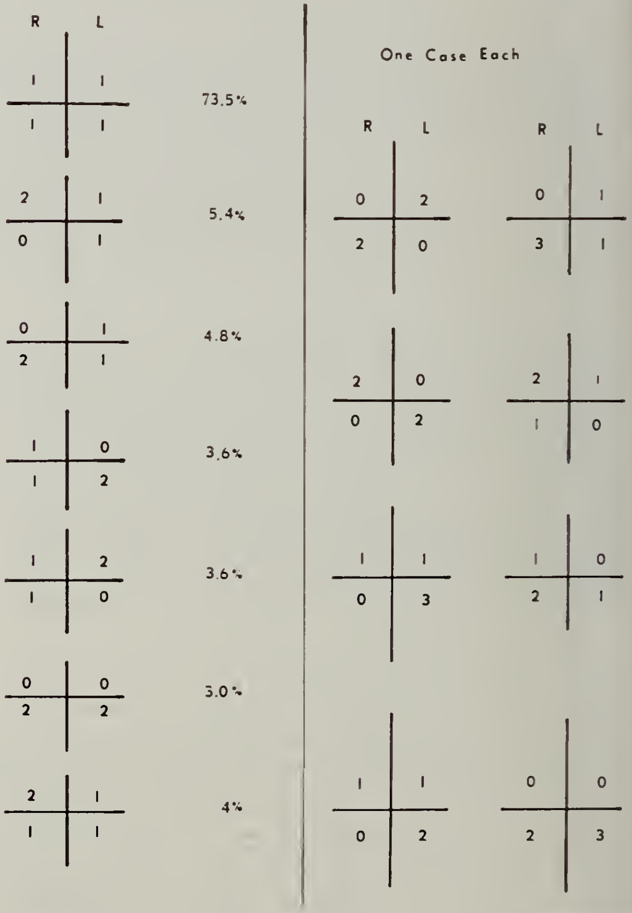


Fig. 1 Anatomical distribution in cases having four or more glands per case. Horizontal lines indicate level of inferior thyroid artery.

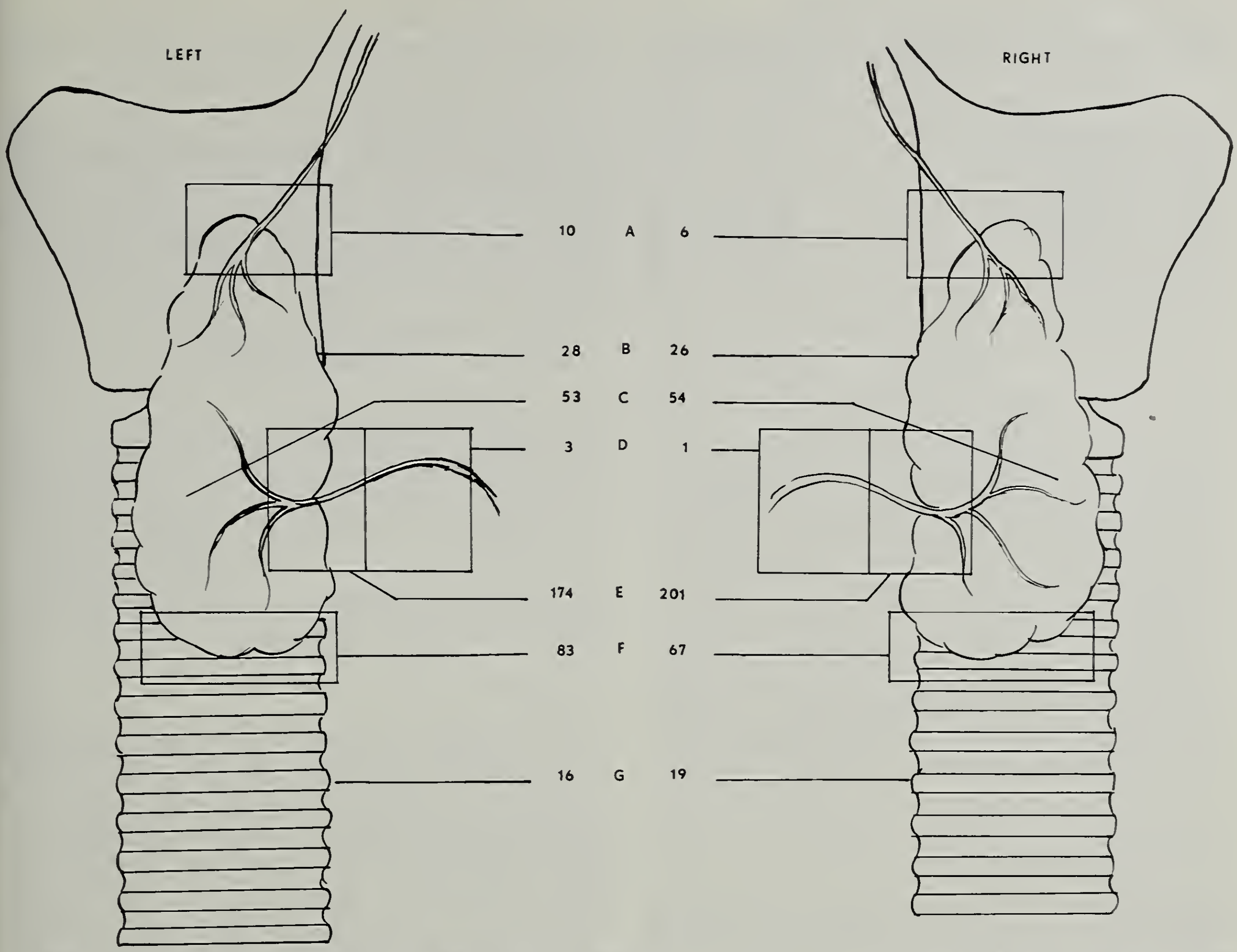


Fig. 2 Graphic representation showing number of glands recovered in various areas. Note that highest incidence is in the region of bifurcation of the interior thyroid artery and the lower pole. (A—upper pole; B—along posterior margin of gland; C—lateral surface of thyroid; D—adjacent to inferior thyroid artery but greater than 2 cm from bifurcation; E—within 2 cm of bifurcation of the inferior thyroid artery; F—lower pole; G—anterior surface of trachea.)

(Table 1), from which a total of 768 parathyroids were recovered for an average of 3.8 glands per specimen. This is in excellent agreement with previous reports. Four parathyroids per specimen were found in 76% of the cases. In 12% only three parathyroids were recovered, while in 7% there were two or less. Of this latter group all specimens had been inadequately excised so that significant amounts of tissue, in areas which would be expected to contain parathyroids, were missing. Such specimens, although observed grossly to be defective, were included in the data but were labeled as “inadequate” before any search for parathyroids was made.

A few of those in which only three glands were found and no case yielded more than five. “inadequate” category, although it must be remembered that the finding of three glands always raises the question of simply a failure to find the average number or the possibility that one gland may have migrated beyond the area of excision, such as into the mediastinum. In 5% of the cases five full size normal parathyroids were found and no case yielded more than five. It is not uncommon, however, to demonstrate six parathyroid glands in one specimen. In Gilmore's series[1] the largest number was six, but these were obtained from embryos and the excess were considered to be accessory glands. He also cited reports by Zuckerkandl who reported eight glands in one adult (not confirmed microscopically), Forsyth who found one case with 11 glands and Erdheim who found one instance of 12. These last two were obtained from infants, and the glands in excess of the usual four were extremely small in size and were considered to be merely “germs” of parathyroids.

It is usually expected that there will be two parathyroids on each side, one above and one below the level of the inferior thyroid artery.

TABLE 2

Location	*Right*	*Left*
Medial surface thyroid	7	11
Between thyroid lobules	7	16
Behind trachea	1	0
Lateral wall esophagus	13	8
Behind esophagus	5	0
In thymus tissue	14	12
In fat lobule	6	0
On carotid artery	1	0

Fig. 1 shows 73.5% of cases to have this configuration, the remainder being distributed in any number of combinations. The most striking observation was the high incidence of symmetrical distribution on the two sides which, when four or more glands were recovered, was found in 80.5% of the cases. By symmetry we do not wish to imply that one side is the mirror image of the other. Our application of the term has been to compare locations on the two sides, and if each gland and its opposite number lie within symmetrically placed areas 2 cm square, to consider the distribution as symmetrical. This is of considerable importance to the surgeon who may occasionally have difficulty in locating a gland. Thus, if one selects a spot corresponding to the location of the recovered gland, the missing one usually will be found to lie within 2 cm of the spot.

In compiling the data on location of the parathyroids (Fig. 2) it was hoped to use enlarged drawings with dots representing each gland. Unfortunately, this resulted in illustrations too large for suitable reproduction, so the data were converted to areas showing the number of glands recovered in each. It is evident that parathyroids will most frequently be located in the region of bifurcation of the inferior thyroid artery and the lower pole. A significant number will be located on the surface of the thyroid lobe.

Some miscellaneous findings (Table 2) are felt to be worthy of mention. The number of parathyroids found on the medial surface of the thyroid and between thyroid lobulations gives emphasis to the earlier admonition to carefully search the excised thyroid tissue for these structures. It is not uncommon to find large lobules of thymus tissue, which have failed to migrate caudally to the usual location, lying in close proximity with the lower half of the thyroid lobe and containing an embedded parathyroid gland. Parathyroids may also be found on the lateral wall of the esophagus, between the esophagus and trachea, and behind the esophagus. Knowledge of the variable locations of parathyroids outside the immediate surgical field is chiefly of importance to those searching for all parathyroid glands in hyperparathyroidism.

SUMMARY

The accidental removal of parathyroid tissue during thyroid surgery is usually due to failure to recognize these structures. Four major requirements for safety of parathyroid glands are discussed, with special emphasis on the need for knowledge of the most common locations of these glands. Data are presented of the findings in 202 routine autopsy specimens, from which 768 parathyroid glands were recovered and confirmed by microscopic section.

BIBLIOGRAPHY

1. Gilmore, J. R.: The Gross Anatomy of the Parathyroid Glands. J. Path. & Bact. 46:133, 1938.
2. Hoffman, G. T.: The Parathyroid Glands. Collective Review. S. G. & O. 95:417, 1952.
3. Janelli, D. E.: The Parathyroid Glands, With Special Emphasis on Surgical Aspects. Collective Review. S. G. & O. 102:105, 1956.

The second Missouri Conference on Cardiac and Related Chronic Diseases will be held Friday, May 13 at Ramada Inn, Jefferson City. Improved Community Health Care in Missouri is the ultimate goal of the conference. This meeting is a follow-up of the Second National Conference on Cardiovascular Diseases held in Washington in 1964. Missouri is the first state to hold its second conference, the first one being held last fall.

ANDREW W. WALKER, M.D. *and*
JESSIE L. TERNBERG, M.D., *St. Louis*

Spontaneous Perforation of an Umbilical Hernia in an Infant

Case Report

Spontaneous perforation of umbilical hernias is rare and in infants, so far as the authors could discover, has been reported previously in only one series. Doctors Walker and Ternberg are from the Department of Surgery, Washington University School of Medicine and St. Louis Children's Hospital. They report such a case of spontaneous perforation which complicated the management of a meningomyelocele in an infant patient.

THE COMPLICATIONS OF UNTREATED hernias are well known. They consist most frequently of incarcerations or strangulations of the intestine or omentum. Rarely, spontaneous perforations of hernias also occur.

Helmig[1] reviewed 47 spontaneous hernial perforations. Most of these perforations occurred in incisional hernias (21 cases) and umbilical hernias (16 cases). Only three of the cases were in children, two of these being umbilical hernias. We have become accustomed to think of umbilical hernias in children as a benign entity. Incarceration does occur, although infrequently. Approximately one incarcerated umbilical hernia in a child is seen in the St. Louis Children's Hospital every two years. To the best of our knowledge, no report of spontaneous perforation of an umbilical hernia in an infant has been reported except in Helmig's series.

CASE REPORT

A baby girl, delivered by a midwife at home on February 4, 1965 was admitted to St. Louis Children's Hospital soon after birth because of the presence of a meningomyelocele. An umbilical hernia measuring approximately 3 x 3 cm. was also noted. Aqueductal stenosis with resultant hydrocephalus was diagnosed and a ventriculo-peritoneal shunt was formed on May 19. The abdominal incision was made in the right upper quadrant. An unsuccessful attempt was made to skin graft the meningomyelocele. Transitory constipation was relieved with Colace. The infant did well and was discharged on June 8, 1965.

She was readmitted on July 6, 1965, because of a leaking meningomyelocele and associated fever. Dressings wet with silver nitrate (0.5% solution) were applied to the meningomyelocele to reduce the topical bacterial count and systemic antibiotics were administered. The ventriculo-peritoneal Holter valve was repositioned two days later.

During her convalescence the patient was kept either on her side or abdomen. The tip of the umbilical hernia which now measured 4 x 5 cm., became the site of a small superficial appearing ulcer. On July 23, while the patient was being prepared for her afternoon feeding, she eviscerated through her umbilical hernia (Fig. 1). She was taken immediately to the operating room where the intestine was replaced and the hernia repaired. No postoperative complications ensued, and her sutures were removed on the seventh postoperative day. Microscopic sections of the excess skin removed showed

(Continued on page 358)

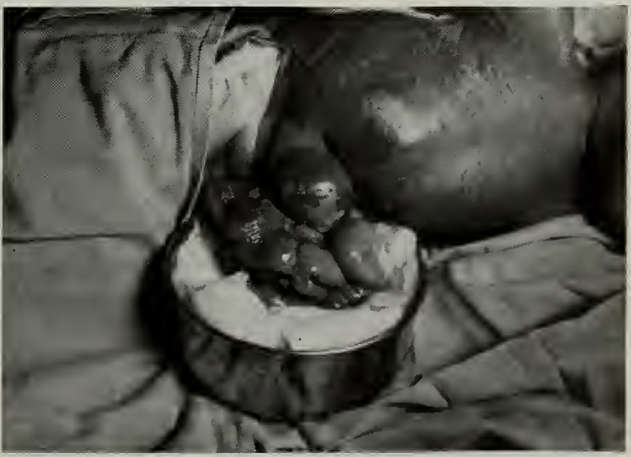


Fig. 1 Spontaneous perforation of an umbilical hernia with eventration of the small bowel in an infant.

MARJORIE DALE, M.D., *Columbia*

Casualty Care and Transportation in Non-Metropolitan Missouri

DESPITE TREMENDOUS STRIDES which have been made in understanding the pathophysiology of trauma and in the management of the resulting injuries, there is a continuing increase in the morbidity and mortality resulting from accidents. This increase is due primarily to the remarkable increase in the utilization of motor vehicles by the American public.

Obviously, the prevention of accidents is the most effective means of reducing morbidity and mortality among the injured. For example, there is little doubt that a tremendous reduction in the incidence and severity of trauma due to automobile accidents could be achieved if the public expressed sufficient concern, if automobile manufacturers heeded this concern, and if state and federal lawmakers formulated and enforced measures necessary for greater highway safety.

If we acknowledge, however, that there will be a certain irreducible number of accidents in a society as mechanized as our own, a second factor of importance for reducing the severity and complications of trauma would be competent emergency care and expedient, safe transportation of the sick and injured.

Wartime experience demonstrated that the best medical and surgical care and equipment was of little help if the techniques of emergency management and effective transportation of the injured were lacking. It seems inconceivable that lessons learned on the battlefield regarding the necessity for prompt and skilled emergency care and evacuation of the injured should be ignored so completely in civilian life. It is apparent that a widespread and serious deficiency exists in the United States in initial care and transportation of the injured.

When the magnitude of the accident problem in the United States is considered, the losses to family units and to the national economy are staggering. Accidental injury ranks fourth as a cause of death in the United States and is the leading cause of death for persons in the age group, one through 34 years. More than 100,000 people die of accidental injuries each year. There are 46-million people who are seriously injured, and over 250,000 who suffer permanent, morbid consequences from trauma. In the majority of instances accident victims are in their most productive years; therefore, the estimated loss to the economy from accidental injury undoubtedly exceed $15-billion yearly.

A study of emergency care facilities in rural Missouri which was conducted by the author in partial fulfillment of requirements for the degree of Master of Science in Public Health. Accumulated evidence indicates that ambulance or emergency vehicle service which is available in non-metropolitan areas of the state falls far short of desirable levels, both quantitatively and qualitatively. Doctor Dale is from the Department of Community Health and Medical Practice, University of Missouri School of Medicine. Her work on this project was supported by United Health Foundations Grant No. 34.

Medical care of the injured in the majority of medical facilities in this country is of a uniformly high order and should be capable of continuously diminishing the disabling effects of accidental trauma. Today, a twilight zone in the over-all management of the injured exists, and it extends from the time of the accident until the patient reaches a medical facility. It is during this period that inadequate or inept initial care and transport of the injured may lead to irreparable physical impairment.

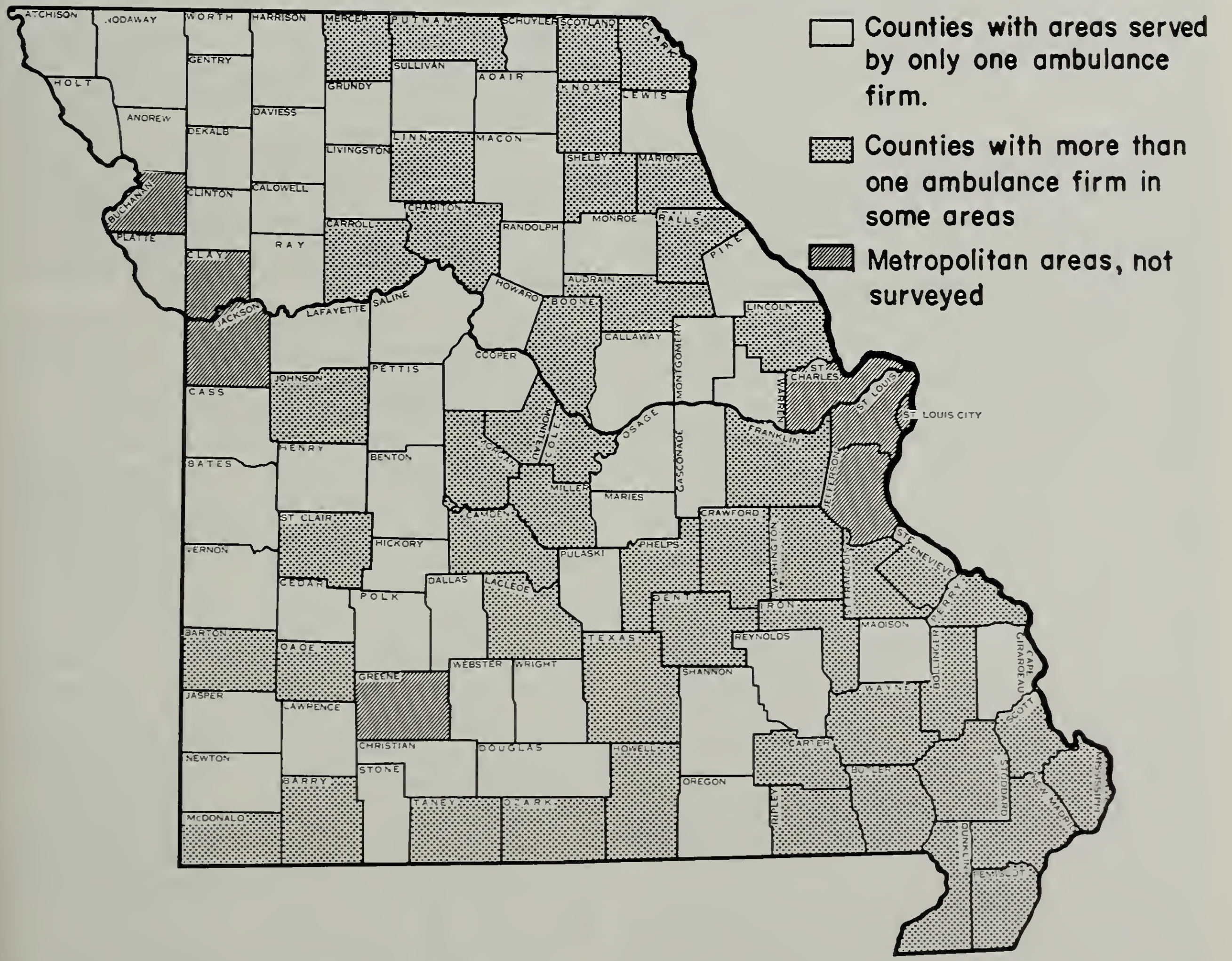
Despite the apathy of state and federal legislatures and the almost complete ignorance of the general population regarding the present state of casualty management, the deleterious aspects of this problem are well known to the few organizations which are attempting to publicize the need and emphasize the current inadequacies of the care and transport of the sick and injured. According to Dr. James B. Mason, Assistant Director of the American College of Surgeons, "Twenty-five per cent of those persons permanently disabled in traffic accidents would not be crippled with proper care and transportation after the accident. This means that 25,000 to 30,000 persons a year would escape the crutch or wheelchair."[1] His statement does not take into consideration the unknown number of casualties listed as dead on arrival at the hospital who might have survived with proper initial therapy.

In reviewing the data derived from the 1960 nationwide survey of casualty care and transportation by Dr. Oscar Hampton,[2] it became apparent that if the larger cities and population centers have difficulty in securing and regulating emergency care and casualty transportation, areas of less dense population might have even greater problems. Rural areas have a constricted tax base to finance these costly services, and limited utilization of emergency facilities precludes profitable private operation of such services.

Since Hampton's report dealt with only the larger cities, it did not cover emergency care resources in non-metropolitan areas in the United States. Information is definitely needed regarding casualty management for people in non-metropolitan areas. Population totals in small urban and rural areas are not inconsiderable when one considers the additional number of persons at risk on the highways due to the far-ranging vehicular mobility of the average American family. Since a large proportion of the population of the State of Missouri is non-metropolitan, it seemed worthwhile to study the casualty care resources available in the rural and smaller urban areas in Missouri.

Methods

To determine the composition of casualty care and transportation facilities available in the non-metropolitan areas of Missouri, a questionnaire was devised utilizing the standards enumerated in the Model Ordinance Regulating Ambulance Service and the Minimal Equipment List for


Counties with areas served by only one ambulance firm.
Counties with more than one ambulance firm in some areas
Metropolitan areas, not surveyed
ATCHISON
NODAWAY
WORTH
HARRISON
MERCER
PUTNAM
SCHUYLER
SCOTLAND
CLARK
HOLT
GENTRY
SULLIVAN
ADAIR
KNOX
LEWIS
ANDREW
DEKALB
DAVIESS
GRUNDY
LINN
MACON
SHELBY
MARION
BUCHANAN
CLINTON
CALDWELL
LIVINGSTON
CHARITON
RANDOLPH
MONROE
RALLS
PLATTE
CLAY
RAY
CARROLL
PIKE
SALINE
LAFAYETTE
JACKSON
HOWARD
BOONE
AUDRAIN
LINCOLN
COOPER
CALLAWAY
MONTGOMERY
WARREN
ST CHARLES
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ST LOUIS CITY
JOHNSON
PETTIS
CASS
MONITEAU
COLE
OSAGE
GASCONADE
FRANKLIN
HENRY
BENTON
MORGAN
MILLER
MARIES
JEFFERSON
BATES
ST CLAIR
CAMDEN
HICKORY
PULASKI
PHELPS
CRAWFORD
WASHINGTON
STE GENEVIEVE
VERNON
CEDAR
POLK
DALLAS
LACLEDE
DENT
IRON
PERRY
MADISON
REYNOLDS
TEXAS
BARTON
DADE
GREENE
WEBSTER
WRIGHT
SHANNON
WAYNE
BOLLINGER
CAPE GIRARDEAU
JASPER
LAWRENCE
CHRISTIAN
DOUGLAS
HOWELL
CARTER
SCOTT
NEWTON
STONE
BARRY
TANEY
OZARK
OREGON
RIPLEY
BUTLER
STODDARD
MISSISSIPPI
NEW MADRID
McDONALD
DUNKLIN
PEMISCOT

Fig. 1 Results of 1965 survey showing distribution of ambulance or emergency vehicle service in non-metropolitan Missouri.

Ambulances and Dual Purpose Vehicles Serving as Ambulances by the Joint Action Program and the American College of Surgeons Committee on Trauma. The format employed was a composite of the one recommended by the National Safety Council[3] and those recently utilized by the University of Kansas[4] and the University of North Carolina[5] in their studies of casualty management. Metropolitan areas defined by the Bureau of the Census were excluded from the study.

Preliminary drafts of the questionnaire were submitted to morticians and ambulance drivers from all sections of Missouri, who were on routine trips to the University Medical Center at Columbia. They were asked to make comments and suggestions. The final form included certain points which these men considered important in securing a meaningful evaluation. The questionnaire with an explanatory cover letter was sent to each of the 713 funeral homes in 413 Missouri cities listed in the National Morticians Directory. The Board and the Regional Directors of the Missouri Funeral Directors and Embalmers Association encouraged all morticians throughout the state to participate in this survey.

Results

Of the firms surveyed, 69% of those currently engaged in casualty care and transportation returned complete questionnaires. These firms reported having 775 vehicles in use for casualty transportation. If a similar proportion of vehicles were available from the remainder of the firms not responding to the questionnaire, then the theorectical total of vehicles available for casualty transportation in non-metropolitan Missouri would be 1,125 or approximately one ambulance for every 2,500 people in the state. The responses suggested that in 61 of the 114 counties of the state, there were areas in which only one firm provided emergency service. Fig. 1 shows the counties in Missouri served by only one firm providing ambulance services and those served by two or more firms. Please note that metropolitan areas were excluded from the survey. Although the majority of the firms providing emergency service indicated that they had a sufficient number of standby ambulances, one or two indicated that, even though they were the only available source of emergency transportation, they had only one vehicle available for all emergency transportation.

Among the 311 firms responding to the question regarding the extent of the area which they serviced, 30% indicated that their range was not more than ten miles, 51% stated that the extent of their coverage was 15 miles or less, 73% gave a 25-mile range, while only 15% of firms serviced an area as large as an entire county.

Of the 347 replying to the question regarding uniform service fees as an aid to the upgrading of casualty management, 74% considered this probably advantageous, while 23% were opposed to the idea.

In all but one instance, the replies to the questionnaire indicated that emergency services were available on a 24-hour-a-day basis. A tabulation of calls received monthly by 340 morticians showed that only 9% had received more than 20 calls monthly, whereas 46% received a maximum of five calls each month. The vast majority of firms (71%) received no more than ten calls a month.

Four hundred and thirty-one replies were returned regarding the type of attendant commonly accompanying the ambulance driver. Seventeen per cent of the firms ordinarily had no attendant to help the driver, while 24% of the ambulance services provided only an untrained helper. Over one-half (51%) of the firms did not employ a trained attendant to take charge of the emergency care of the accident victim while the driver was otherwise occupied, but in only 8% of ambulance services were more highly trained personnel utilized. However, these persons were used primarily in the transferring of patients rather than in their immediate post-accident care.

Table 1 lists the suggested requirements for ambulance drivers and attendants recommended in the Model Ordinance.[6] Approximately 75% of all firms indicated in their replies that they required their attendants to be over 21 years of age, have a chauffeur's license, no handicapping physical condition, no traffic accident convictions or criminal record, not be addicted to the use of alcoholic beverages and have a willingness to undertake on-the-job training. Only one in ten of the ambulance attendants referred to are required to pass any type of physical test, and only 25% of the ambulance attendants included in this survey had some sort of Red Cross training, even if it were, as one reply indicated, "first aid training received many years ago as a Boy Scout."

In 48% of the communities, chauffeurs' licenses are required by ordinance. This is almost the only requirement that is generally made of either the driver or the attendant of emergency vehicles throughout the state.

Of the 338 who replied to the question regarding interest in additional and continuing training of personnel, 270 (80%) considered continuing training a most desirable and necessary requisite for the future improvement of services. A number of firms stated that they were unable to require regular refresher courses due to their geographical location and distance from educational centers. In contrast, a number of replies indicated that personnel had attended such emergency care courses offered in Kansas City, Kansas.

In 343 communities apparently no ordinances of any type exist in regard to the regulation of ambulance equipment. Only seven firms stated that their communities had either formulated or enforced such requirements. Only two communities in the entire state required two-way radio communication with the police and the funeral home office. Specified speed limits for ambulances, semi-annual maintenance inspection of emergency vehicles, a minimum of two men per vehicle and liability insurance for the vehicle were the other requirements sporadically mentioned.

For the most part, the owners of the ambulances were aware of the necessity for frequent and proper maintenance, and all but 30 of 320 owners indicated their desire for regular or official inspection. Since no regulations exist throughout the state regarding this phase of casualty transportation, the variation of type and frequency of maintenance inspection is understandable. Thirty-seven per cent are inspected by the local garage, 18% by the agency from which the vehicle was purchased, 15% by the owner himself, 14% by a local service station, and only 3% are inspected by the police force. Nine per cent were ostensibly never inspected, but this may refer simply to the lack of official inspection rather than a complete lack of maintenance.

TABLE 1

Percentage of Mortuaries Fulfilling Suggested Requirements for Ambulance Drivers and Attendants in Rural Missouri, 1965

	Number Firms Answering	*% Firms Fulfilling Requirement*	*% Requirements by Ordinances*
Minimum age 21 years	327	71	1
Chauffeur's license	306	71	48
Health card issued by Health Department	258	13	2
No handicapping physical condition	303	84	2
High school education or greater	306	65	0
No conviction for traffic accident	309	77	1
No excessive use of alcoholic beverages	320	94	0
No conviction for misdemeanor or felony	319	87	2
Red Cross Standard First Aid Course	279	51	1
Red Cross Advanced First Aid Course	238	26	1
On-the-job training and experience	274	83	1

TABLE 2

Equipment of Vehicles Serving as Ambulances in Rural Missouri, 1965

Is Vehicle Equipped	*Number Firms Answering*	*% Firms Answering Yes*
To splint fractures at scene	331	63
To control hemorrhage at scene	334	78
To supply dressings of wounds	326	71
To supply oxygen and maintain airway both inside and outside of vehicle	350	96
With portable resuscitator	410	25
With seat belts for drivers and attendants	308	50
With safety or restraining belt for patient	324	63
With two-way radio (vehicle to and from station)	310	29
With portable battery light	326	78
With flares	330	67
With fire extinguishers	326	58
With safety belt for attendant's seat in rear	301	14

The equipment which the responses indicated was actually carried on emergency vehicles in the state is found in Table 2 (compiled from those items deemed necessary in the Model Ordinance and Minimal Equipment List). The most frequently encountered items of equipment were oxygen in 96% of the vehicles and a portable battery light and equipment for hemorrhage control in 78%. Less frequently encountered equipment items were: wound dressings (71%), flares (67%), splints (63%), restraining belts for patients (63%) and fire extinguishers (58%).

A large number of problems which hinder efforts to improve ambulance services were mentioned. Those most frequently cited were: the obvious financial problems involved in emergency care; the difficulty in making collections for services rendered; the unprofitable aspects of the need to have trained personnel; and the very high cost of equipping vehicles with the expensive emergency medical equipment which was expected. Several morticians commented that unusually low emergency transporation fees were used by a few firms as an inducement to their primary business.

Although many of the morticians expressed a desire to get out of the business of transporting the sick and injured, they did suggest several important changes to improve these services. They recommended improved relationship with the hospitals and their personnel so that ambulances would not be immobilized by waiting so long for patient disposition. In addition they suggested fixed speed limits, ambulance driver training, and rigid physical and mental requirements for the driver. They also indicated the need for a central radio transmitting station for better and more rapid utilization of vehicles, and pointed out that these vehicles should have certain basic equipment and be regularly inspected by an official source.

Most of the morticians indicated that adequate emergency care and transportation services are not possible with the present unstable financial situation. The majority suggested that subsidization in some form would be necessary for them to continue to participate in this outgrowth of their primary duties as funeral directors.

Discussion

The results of the study indicate that the responsibility for initial care and transportation of the injured throughout non-metropolitan Missouri rests in the hands of morticians. This heavy responsibility has been thrust upon or relegated to the morticians simply because the vehicles used in conducting their business resemble ambulances. Inherent in the acceptance by the morticians of this frequently unrewarding responsibility is the conclusion that there has been so little general acknowledgement of the importance of this phase of accident management that the morticians have been forced to undertake duties which no one else wants. Most morticians provide this community service unselfishly with no thought of personal gain. It is inconceivable that in a health-oriented and well-to-do society like our own, this most vital phase of accident management should be provided only as a by-product of the mortuary industry.

At times, only one vehicle may be available for emergency services in an area which may be disproportionately large in regard to population. If the one vehicle is in use, the entire area then becomes devoid of further emergency service. This is particularly pertinent in view of the increasing utilization of these services for the transport of chronically ill patients to and from medical centers. Similarly, the official census in an area does not take into consideration the number of people who may be traveling through the area at any one time, increasing the potential population "at risk" to be served by existing emergency services. Mitchell[7] stated that "one and one-half times as many people were injured per 1,000 population in traffic accidents in rural counties (under 50,000 population) as contrasted with urban counties (over 500,000 population), and that people injured in rural counties were almost four times as likely to die of their injuries as those injured in urban counties. These findings were noted despite the fact that accidents occurring in rural areas tended to be single vehicle accidents which resulted in less severe injuries, while those in urban areas tended to be multiple vehicle accidents resulting in more serious injuries."

The impact which the current lack of realistic uniform rates for emergency services has upon the character and quality of services is again closely allied with the financial requirement that business pressures have on the morticians engaged in casualty transport. It is quite understandable that the morticians should express interest in this problem because of the large financial investment they have made in vehicles, equipment, and personnel. This cannot be amortized by the returns achieved in providing emergency service.

Although emergency services are provided on a 24-hour basis by all but one of the morticians surveyed, the availability of vehicles can again be questioned when their deployment might well obviate further emergency service in that area.

The cost problem is acutely felt by morticians in providing personnel for emergency care. Current cost structures frequently preclude the obtaining of competent, healthy and well-trained personnel for the position of driver and attendant when these talents are in such demand elsewhere. In Missouri physical requirements beyond a single initial eye examination have never been demanded as a prerequisite for drivers' licenses. The number of drivers and attendants reported to have had training in casualty management may not indicate the quality of that training.

This may be due to the location of the firm away from any source of first-aid education, rather than a lack of interest. The majority of respondents requested initial and continuing training of the personnel who are placed in charge of the emergency vehicles. Even without legislation, the caliber of services could be vastly improved if training were available.

The regulations which exist throughout the state in regard to emergency care and transport have to do only with requiring a chauffeur's license for the driver of the vehicle. It is understandable that local authorities hesitate to impose demands on the morticians of the community in regard to what amounts to a charitable offshoot of their regular activities. It is paradoxical, however, that beauticians, barbers, chiropodists, restaurant operators and a host of others must be examined and licensed by the state, while the personnel who deal with emergency care and their vehicles and equipment are completely ignored.

Throughout Missouri, there are no uniform regulations in regard to inspection of any vehicles other than the determination of truck weights. The fact that most of the morticians realize the necessity for keeping their vehicles moving and thereby enforce a certain standard of mechanical inspection is perhaps the most salubrious aspect of this situation. That disasters do occur by virtue of haphazard vehicle maintenance is indicated by the recent death of a young girl who apparently died from carbon monoxide poisoning due to faulty operation of a muffler during an ambulance trip to a hospital (*Kansas City Times,* August 20, 1964).

In regard to the equipment carried by emergency vehicles currently in use in Missouri, it is encouraging to note that despite the lack of any ordinances or statutes regulating this aspect of casualty management morticians, in general, are well aware of the basic necessities and have supplied them in a surprising number of instances. That 96% of these vehicles are equipped with supplies to maintain the patient's airway and provide oxygen is encouraging. Less salubrious is the realization that a large number of vehicles carry little of the equipment which is considered necessary to provide basic emergency care. The lack of adequate equipment may also be due, in part, to restrictions placed on the morticians by their insurance carriers. The use of splints or other first-aid equipment by morticians may be interpreted by some to infringe on "the practice of medicine."

The significant deficiency in seat belts and other restraining equipment seems inappropriate for vehicles designed to reduce the hazards of trauma. Particularly disconcerting are the small number of emergency vehicles equipped with two-way radio facilities. This should be a *sine qua non* for any vehicle serving a large geographic area. Two-way radios could tremendously increase emergency coverage in any locale.

The reason for the deficiency in proper casualty equipment is derived basically from the relegation of responsibility for these services to organizations which should not be forced into reluctant acceptance of such important work. The funeral director must, within the financial limits of his primary business, not only provide a very costly basic vehicle but be expected to altruistically increase his cost of operation by fitting this vehicle with equipment which is not truly appropriate to his primary business aims. So long as there is public and governmental apathy in seeing that emergency vehicles and proper equipment are available, the mortician must continue to keep one eye on overhead while attempting to do what he can to provide reasonably satisfactory casualty management.

Added to the problem of the high initial cost of equipment and the salaries required for 24-hour coverage, is the problem of collections. While fees for services rendered for the transportation of the non-emergency patient are more likely to be collected, the problem in fee collection following accidental injury is quite acute. Caldwell[8] found that payment was made in 77% of non-accident services, but for accident services only 48% of collections were made. Again, the problem was much greater in isolated rural areas.

Morticians commented that the need for proper equipment and trained personnel was realized, but in the final analysis it was contingent on the cost of its provision. It was apparent to most morticians that the lack of supervision, regulations and subsidies were barriers to the improvement of emergency care and management in Missouri.

SUMMARY

A study of emergency care facilities was undertaken to determine the present status of casualty management in non-metropolitan Missouri. A questionnaire referable to the important features of emergency care and transportation was sent to all morticians in the state. In the non-metropoli-

tan areas of Missouri emergency transportation is also invariably associated with mortuaries.

The survey showed that non-metropolitan Missouri does not have adequate 24-hour-a-day ambulance service coverage in all areas. Due to financial reasons, even existing coverage may be quite deficient at times. Few of the vehicles are properly equipped and only a little more than one-half of their attendants have had adequate training in first aid procedures. There are no state ordinances regulating either vehicles or personnel, and in only very few instances are there municipal vehicle regulations.

In all areas the need for improvement of casualty management is realized by the morticians, but continuing financial loss of the operation as well as high initial cost of their equipment is offered as the primary reason for the disturbing deficiency in this vital area of medical service.

It is obvious that unless a concerted effort is made by the lay population and elected representatives to improve, standardize and regulate all the components involved in emergency care, the current inadequate status will continue to prevail and exact a continuously increasing toll in morbidity and mortality.

Specific needs include basic and continuing training of personnel as well as rigid standards of physical, mental and moral status. Basic emergency equipment, proper vehicles and regulations governing the operation of the service are necessary for optimal performance.

Bibliography

1. Mason, J. B., Cited in Palmer, F. C.: How the Public Health Service Views the Ambulance Field. Unpublished talk, 1958.

2. Hampton, O. P., Jr.: Transportation of the Injured: A Report. Bull. Am. Coll. Surg. 45:55-59, 1960.

3. National Safety Council: Community Self-Analysis on Transportation of Sick and Injured Persons. Chicago, Illinois, 1961.

4. Personal Communication: Immediate Care and Transportation of the Sick and Injured. University of Kansas, Lawrence, Kansas, 1964.

5. Personal Communication: Immediate Care and Transportation of the Sick and Injured. University of North Carolina, Chapel Hill, North Carolina, 1963.

6. Anon: Model Ordinance Regulating Ambulance Service. Drafted by the Joint Action Program of the Am. Coll. of Surgeons, the Am. Assn. for Surg. of Trauma, and the National Safety Council, 1963.

7. Mitchell, H. W.: Ambulance and Emergency Medical Care. Address to the Health Officers Section of the American Public Health Assn., 1964.

8. Caldwell, L. A.: Ambulance Services and Traffic Casualties. Med. Rev. 61:172, 1961.

Spontaneous Perforation (Cont'd)

chronic inflammatory cellular infiltration and subdermal fibrosis.

Comment

Spontaneous eventration through the umbilicus is a rare complication of hernias. In addition to Helmig's series, sporadic cases have been reported by other authors.[2-4] In general, these perforations have occurred in elderly patients with large hernias. Frequently, ascites and chronic liver disease are present. The presence of a previous scar in the area has also been implicated as contributing to the incidence of this complication.

Eventration in this case was related to the size of the hernia and the occurrence of pressure necrosis incident to the necessity of keeping the baby on her side or abdomen. Pressure atrophy of the skin, followed by an unsupported sudden increase in intra-abdominal pressure, resulted in eventration. A similar mechanism occurred in another reported patient[4] who habitually wore an elastic support to keep his umbilical hernia from protruding. He arose one night to go to the bathroom without his support and eviscerated. One wonders why more complications of perforation have not arisen from the practice of taping a quarter over an umbilical hernia. Obviously, when umbilical hernias are large, the site of ulceration or excessive cutaneous atrophy, immediate umbilical herniorrhaphy is indicated.

Summary

A case of spontaneous perforation of an umbilical hernia in an infant is reported. Survey of the literature indicates this is a rare complication of hernias. The conditions under which this complication may occur are postulated. Herniorrhaphy is recommended if these conditions are present.

Bibliography

1. Helmig, H.: Über sogenannte Spontanrupturen von Hernien, Schweiz. Med. Wchnschr. 88:662, 1958.

2. Eisenberg, M. M. and Haye, S. J.: Spontaneous Perforation of Umbilical Hernia. Arch. of Surg. 81:514, 1960.

3. Hardinger, J. D. and Noskin, E. A.: Spontaneous Eventration Through the Umbilicus. New Eng. J. of Med. 261:141, 1959.

4. Rupnik, E. J. and Bram, R. B.: Spontaneous Rupture of an Umbilical Hernia. U. S. Armed Forces Medical Journal 4:447, 1953.

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Water Intoxication in Obstetrics

Case Report

The present era of medicine is marked by a progressive ability to control natural phenomena. In obstetrics, we have pharmacologic agents capable of initiating labor at term and expeditiously completing spontaneous abortions. As a consequence of enhanced utilization of these agents, medical literature is becoming replete with knowledge of complications associated with such procedures.

All who employ oxytocin are aware of the possibility of uterine rupture if used in the presence of cephalopelvic disproportion.[1] The necessity of physician supervision of oxytocin therapy has been clearly documented, not only by instances of uterine rupture, but also by the occurrence of tetanic contractions with resulting fetal hypoxia. Another area of recent concern has been the documentation of significant antidiuretic action of synthetic oxytocic preparations, potentially resulting in water intoxication.[2-4] A recent case in the Department of Obstetrics and Gynecology at the University of Missouri Medical Center is representative of possible difficulties that may be encountered in this area.

Case Report

A 22-year-old G-5, P-4 (02-05-80-0) was admitted July 11, 1965 with her last menstrual period in the preceding April. Her blood group was O negative and the VDRL was non-reactive. Past history included delivery of three Rh sensitized infants, two requiring exchange transfusions. Other significant past history included three orthopedic procedures for the correction of a "club foot," all tolerated without difficulty. Her presenting complaint consisted of vaginal bleeding associated with lower abdominal cramping pain. Physical examination demonstrated an alert, well-oriented Caucasian with a blood pressure of 130/80, pulse 88 and temperature 98 F.

Positive physical findings were limited to the pelvis. Fresh blood was present in the vagina and the cervix was dilated with placental tissue. The uterus was 8 to 10 weeks' size. The initial impression was incomplete abortion. The patient was cross matched and 2,500 cc. of 5% dextrose and water containing a total of 50 units of pitocin was ordered, to run until time of curettage 16 hours later. At the time of dilatation and curettage, 10 units of pitocin was administered I.V. Dilatation and curettage was completed without incident, utilizing pentothal and nitrous oxide for anesthesia. Postoperatively the patient received 1,000 cc. of 5% dextrose and water containing 20 units of pitocin.

In the recovery room the patient reacted from anesthesia and was alert at the time of return to the ward. Five hours following dilatation and curettage, after requesting something to eat, she was noted to have a convulsion. The initial convulsion was followed by the development of a semicomatose state. The succeeding 12 hours were marked by recurrent seizures and progressive somnolence. Total intake for the 24-hour period was 4,000 cc. of 5% dextrose and water with 85 units of pitocin or 21 milliunits of pitocin per minute. During this interval, total urine output obtained by catheterization consisted of 600 cc. with a specific gravity of 1.024. A diagnosis of water intoxication was made following exclusion of focal neurological disease.

A repeat history was obtained from the patient's husband and her mother. The history of "spells" was elicited, but these had not been associated with convulsions. Neurological examination demonstrated only hyperreflexia limited to upper extremities. Serum electrolytes demonstrated a sodium of 110 mEq. and chloride of 83 mEq. Spinal tap revealed an opening pressure of 360 mm. water and closing pressure of 280 mm. The spinal fluid was clear and

Report of a case of water intoxication following the prolonged intravenous infusion of pitocin in electrolyte free dextrose in water. The authors discuss the anti-diuretic action of synthetic oxytocic preparations and the inherent danger of water intoxication which accompanies their use. The authors conclude that oxytocic agents should be administered in fluid other than electrolyte free dextrose in water. Doctor King is an Assistant Professor and Doctor Hall is Chairman, Department of Obstetrics and Gynecology, University of Missouri Medical Center.

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Precautions and Side Effects

Complete blood cell counts should be made before and after therapy, especially if a second course is necessary.

Infrequent and minor side effects include: nausea, unpleasant taste, furry tongue, headache, darkened urine, diarrhea, dizziness, dryness of mouth or vagina, skin rash, dysuria, depression, insomnia, edema. Elimination of trichomonads may aggravate moniliasis.

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free of cells. Total cerebrospinal fluid protein was 20 mg.% and glucose 102 mg.%. The electroencephalogram was grossly abnormal. Pitocin was discontinued and parenteral dextrose and water was replaced by dextrose and saline. In the subsequent 24 hours fluid intake was limited to 650 cc. The urine output was 4,750 cc., the specific gravity was in the 1.010 to 1.018 range. Serum sodium increased from 123 mEq. to 143 mEq. Associated with the diuresis was progressing clearing of her somnolence and no further seizures. The patient soon became well oriented and experienced no further difficulty. Repeat electroencephalogram three days later was consistent with a seizure disorder.

DISCUSSION

Water intoxication associated with oxytocic agents has been observed in missed abortions,[5] inevitable or incomplete abortions,[2] term atony[4] and septic abortions.[6] Severe water retention has been documented not only with purified posterior pituitary extract, but with the synthetic oxytocin, Syntocinon.[3, 4]

Douglas[7] reported a series of 38 patients, at or near term, who received intermittent oxytocin infusions. Urine volumes at half-hour intervals were significantly less during the oxytocic infusion than when glucose alone was infused. This antidiuretic effect was obtained with as little as six milliunits per minute of either purified posterior pituitary extract or with the synthesized oxytocic, Syntocinon. Abdul-Karim and Assali,[8] investigating the mechanism of action of these agents in inducing water retention, suggested that this effect is obtained by direct action on the kidney, producing water retention by reduction of free water clearance, the site of action presumably being the renal tubules. They were successful in demonstrating water retention with these agents in healthy subjects, in individuals with diabetes insipidus and in patients who had the release of their own endogenous posterior pituitary hormones blocked by alcohol administration. In term pregnancies, the antidiuretic action was observed prior to the onset of overt uterine activity and disappeared 15-30 minutes following cessation of the oxytocic infusion.[7, 8]

The clinical manifestations of this antidiuretic effect will be dictated by the degree of hydration or over-hydration that exists. The range of signs and symptoms includes oliguria, nausea and vomiting, headaches, increased irritability, somnolence, convulsions and, finally, coma. These symptoms may well cause considerable clinical confusion if seen in conjunction with septic abortion, severe preeclampsia or eclampsia or in individuals with known compromise of renal function. It has long been known that the degree of hydration is related to the frequency of seizures in convulsive patients. Indeed such individuals are exceedingly sensitive to over-hydration.[9] The accompanying case may well demonstrate the danger with oxytocins in such instances. For these reasons it is suggested that oxytocic agents be administered in fluid other than electrolyte free dextrose in water.[3, 4] Continuous 24-hour infusions of these agents is contraindicated in almost all instances. Intermittent infusion of oxytocics allowing six- to eight-hour intervals of diuresis is ideal. No water intoxications have been reported in inductions of term labors, probably because the oxytocin is administered in a dilute solution for short intervals of time.[1] Monitoring of urine output should be routine in instances in which prolonged use of oxytocins is contemplated.

SUMMARY

Water intoxication is observed in obstetrical cases in which there is prolonged administration of oxytocic agents in electrolyte free fluid. The signs and symptoms of water retention may cause considerable confusion if seen in septic abortions, toxemics or in individuals with known compromised renal function. The intermittent infusion of oxytocics in fluids other than electrolyte free dextrose in water will prevent the occurrence of this problem.

BIBLIOGRAPHY

1. Munsick, R. A.: The Pharmacology and Clinical Application of Various Oxytocic Drugs. Am. Journal of Obstet. and Gynec. 93:442, 1965.

2. Pittman, J. G.: Water Intoxication Due to Oxytocin. New England Journal of Med. 268:481, 1963.

3. Potter, R. R.: Water Retention Due to Oxytocin. Obstet. and Gynec. 23:699, 1964.

4. Whalley, P. J. and Pritchard, J. A.: Oxytocin and Water Intoxication. J.A.M.A. 186:601, 1963.

5. Liggins, G. C.: Treatment of Missed Abortion by High Dosage Syntocinon Intravenous Infusion. Journal of Obstet. Gynec. Brit. Comm. 69:277, 1962.

6. Shipman, K. H., Sitprija, V., and Holmes, J. H.: Syntocinon in the Differential Diagnosis of Acute Oliguria. Journal of Obstet. and Gynec. 23:242, 1964.

7. Douglas, C. P.: Oxytocin and Antidiuresis in Pregnancy at Term. Clinical Science 28:39, 1965.

8. Abdul-Karim, R. and Assali, N. S.: Renal Function in Human Pregnancy. V. Effects of Oxytocin on Renal Hemodynamics and Water and Electrolyte Excretion. Journal of Lab. and Clin. Medicine 57:522, 1961.

9. Penfield, W. and Erickson, T. C.: Epilepsy and Cerebral Localizations. Springfield, Illinois: Charles C Thomas, 1941.

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Relaxation Under Light Hypnosis

And Its Use With Desensitization and Deconditioning in Phobic States

Case Report

THE GENERAL TECHNIQUE of relaxation under light hypnosis has been developed by Dr. David Stafford-Clark[1] and put into use at the York Psychiatric Clinic at Guy's Hospital, London, since 1954. There have been many relaxation and hypnotic techniques developed over the years, but the essential principles which most have in common are an initial phase of suggestion of relaxation, drowsiness and a feeling of well-being, followed by more specific suggestion when a greater degree of relaxation and trance is achieved. In a large proportion of these techniques patient challenges, such as limb levitation, have been used within the system to test the depth of the hypnotic trance. At the York Clinic it is felt that in many instances this suggests a kind of battle of wills between operator and patient and, in fact, is only necessary to relieve the anxiety of the therapist, reassuring him that his induction is indeed functioning. If levitation does take place, the patient may be concerned with regard to how much "power" you have over them. If levitation fails, the patient may feel he is a poor subject and that treatment will fail. This procedure is felt to be entirely unnecessary and may be detrimental to therapy. A practical technique for "Relaxation Under Light Hypnosis," its use in the treatment of phobic anxiety states utilizing principles of desensitization and deconditioning, and an illustrative case report will be presented. A tape recording, which demonstrates this technique as used in therapy, is available on loan from the Office of Continuing Education of the University of Missouri School of Medicine, to aid in understanding the procedure and illustrate the mood and the rhythm which are mandatory for its success.

METHOD AND DISCUSSION

The description of the practical details of relaxation under light hypnosis may be conveniently divided into three phases: (1) the preliminary explanation, (2) the induction procedure and (3) the five stages of the technique.

The preliminary explanation serves to establish the necessary level of confidence between the patient and the physician. It is based on a factual and reassuring discussion enabling the patient to understand the procedure and therefore gain confidence in the physician and in the form of treatment. Emphasis is placed on the need for cooperation. The patient is asked to lie comfortably on a couch or to sit in a chair and to carry out the suggestions presented. The fact that no challenges will be presented is never specifically stated unless the patient raises the question as a result of possible past hypnotic experience. One must always remember that the patient may have erroneous impressions and fears with regard to hypnosis and these must be alleviated. In fact, when discussing the procedure the words "hypnosis" or "sleep" are often omitted. When reference to the procedure is necessary, the term "relaxation therapy" is used.

The induction begins with or without ancillary aid to immediate suggestion, such as ocular fatigue. Rapid but not unpleasant ocular fatigue may be produced by holding a pencil point or small light source just above and inward to the point of maximum eye convergence. As the patient watches the ocular target it is suggested that he should at this time allow all the muscles of the body to relax beginning with the muscles in the toes, then the muscles in the feet, calves and on in ascending fashion through the muscle groups. When all muscles have been mentioned, the patient is told "to notice how relaxed you have become in this short time, you need only to compare the feeling of relaxation in your body to the mild fatigue which you are feeling in your eye muscles." Indeed their eye muscles are fa-

A description of the use of light hypnosis in the treatment of phobic anxiety states and non-specific anxiety and tension conditions. The author outlines in considerable detail the suggested method for inducing relaxation, desensitization and deconditioning. He also presents a case report, illustrating how the technique is used. Mr. Laycob is a Senior medical student at the University of Missouri School of Medicine.

tigued, and this enhances the suggestive technique and produces within the patient the confidence that treatment is going well. Ocular aid of this nature is helpful, but if the patient is apprehensive or anxious about the procedure one may dispense with it by having the patient begin the session with eyes closed.

At the point of mentioning ocular fatigue, the next step in the technique is to suggest that the patient's eye lids are feeling heavy, that there is a slight burning sensation in the eyes and that they desire to close their eyes (all of which indeed represent the way the patient feels). It is then indicated that these sensations will increase as a verbal count progresses from one to five but that the eyes will only close, and therefore allow the patient to be *completely* relaxed, when his "code letter"[2] is mentioned.

The "code letter" is merely an arbitrarily chosen word, for example "Beta," which is mentioned to the patient prior to the initial relaxation session and which is by suggestion linked to the relaxation experience in the therapeutic situation. Thus, "counting from one to five as your eyes become heavier and heavier—one, two, three, four, five, *Beta*, your code letter for deep relaxation" (eyes closed on the word "Beta"). This association of "Beta" with the hypnotic state is reinforced during all sessions. In later sessions it provides immediate and rapid induction of the desired effect. Coding the patient also allows him to practice on his own, and provides an essential aid in the desensitization and deconditioning procedures which will be described subsequently. It is important to inform the patient that this code letter will only suggest the feeling of relaxation when used by the therapist and when appropriate for the patient. The feeling will not be brought about when hearing the code letter on the television, radio or when reading it in print.

At this point the patient is in the supine position with eyes closed, as suggested by the code letter. The therapist now proceeds to take the patient through the following five stages: (1) Relaxation, (2) Calmness, (3) Confidence, (4) Control and (5) Well-Being, as described by Stafford-Clark. Preceding these stages it is well to mention, "Now that you have done so well in becoming completely relaxed, once again I am going to count from one to five, only this time mentioning with each number the stage that it represents."

"One for Relaxation" This is a stage in which muscular relaxation is obtained by deliberate suggestion. Its results should be observed very carefully by the therapist in order to determine the length of time needed by the individual to achieve relaxation. This will be demonstrated by complete immobility on the part of the patient, regular breathing and a relaxed appearance. It is worthwhile to allow patients to loosen ties and belts and to try several positions of their arms and legs before the formal session begins. For this stage it is suggested that the subject allow all muscles to relax in an ascending manner just as was done when the patient was watching the ocular stimulus. "This phenomenon of relaxation that you are learning so easily, the easing of tension, the absence of strain, leads naturally to the second stage of this process, that of calmness."

"Two for Calmness" This is a subjective deepening of the previous stage with considerable emphasis upon the physical accompaniments. "Calmness of mind leading to calmness of body and calmness of body leading to calmness of mind. Breathing is now completely calm and relaxed . . . in and out (along with patient's breathing). Beta for deep relaxation. You are doing very well. All tension being replaced by relaxation and calmness, leading to the third stage of this process, that of confidence."

"Three for Confidence" This is a feedback suggestion, as by this time many patients have become lightly hypnotised and, if they are, it is reassuring to them to know that it is their doing which has brought about this feeling. "Deep relaxation and calmness, all tension leaving the body, very good indeed, and as this wonderful calm feeling comes over you, it is easy to realize that you yourself are doing this. You are achieving this by yourself. You are now quite calm and relaxed, eyes closed. easy breathing, muscles relaxed and you feel very peaceful. This in turn builds up a sense of confidence. Confident that you can easily bring about this relaxed, peaceful feeling and gradually learn to control the way you feel. Relaxation, calmness and confidence leading easily to the fourth stage of control."

"**Four for Control**" It is in this stage that specific suggestions are best made, such suggestions as an increase and ease of breathing for patients with asthma coupled with the suggestion that breathing will be easier in between sessions and that asthmatic attacks will be warded off since now the patient has control over his mind and body and can become relaxed in times of stress. The use of this stage with direct relationship to the phobic state is demonstrated in the available tape recording. The basis of these suggestions is that autonomic tension can be altered by suggestion (operating at a subconscious level). This provides physical relief of symptoms as well as subjective relief of emotional tensions, thus leading naturally to the final stage of well-being.

"**Five for Well-Being**" This stage suggests the combination of previous stages leading to the result of therapy, which has been previously decided upon by the therapist and patient. This goal of well-being normally will gain emphasis as treatment proceeds and the patient notices improvement. Initially, this stage should be used to imply the patient's success in achieving the desired results of relaxation and to reassure him that the ultimate goal will be possible.

If the aim of treatment is to aid in relaxation only, the patient is brought out of the relaxed state by simply stating, "As I count from five to one you will become more alert, and when I ask you to open your eyes you will not feel drowsy or fatigued but will remember the feeling of relaxation which will help to reinforce this new process which you are learning—counting now from five to one as you become lighter and lighter—five, four, three, two, one open your eyes—(eyes open)—very good indeed. Please remain on the couch for 30 seconds as you collect your thoughts. You did very well today."

DESENSITIZATION

In the event the patient is to be treated by desensitization, one would also carry out the complete procedure described above for two or three sessions in order for the patient to become acquainted with the induction procedure and the utilization of reinforcement of the code letter. After two or three sessions, the patient is again relaxed, and after the five stages have been presented the desensitization stimuli are presented.

The basic postulate of desensitization and deconditioning therapy is the hypothesis that neuroses are persistent maladaptive learned habits and therefore these habits can be reversed by further induced associations.[3] The work of Jones[4] and Wolpe[5] has resulted in a theory of reciprocal inhibition, i.e., if a response inhibitory of anxiety can be made to occur in the presence of anxiety-provoking stimuli, it will weaken the bond between these stimuli and the anxiety.

During the first interview, as one is explaining the relaxation technique to the patient, specific attention is paid to the various situations which bring about the phobic reaction. As one listens and questions the patient, it is not difficult to distinguish that, although the patient may have a primary phobia, many other fears are also present. The next task for both participants is to make a list "hierarchy" with the least provoking stimulus at the top of the list and gradually descending to the most fear provoking stimulus.

The patient is then told that at each session the relaxation procedure will be carried out utilizing the code letter. When relaxation occurs, an attempt must be made to visualize a series of suggested stimuli presented verbally by the therapist. The first suggestion will be concerned with the stimulus causing the least amount of anxiety, the first on the "hierarchy." As each suggestion is presented the patient is instructed to raise the right hand to indicate that there is visualization of the suggested stimulus. Instruction is also given that if a sense of panic or anxiety is felt or the stimulus cannot be visualized the left hand is to be raised, indicating this situation. The therapist during the interviews will be seated a few feet from the patient observing carefully for signs of anxiety, restlessness, increasing respiratory rate or pulse rate (watch superficial temporal artery).

The hypnosis is then induced, and the first item of the "hierarchy" presented. If the patient has no difficulty and raises the right hand, the therapist states, "Very good, and now I want you to realize how relaxed and calm you are as you allow this scene to fade from your mind until your body and mind are completely at ease. Beta for calmness and relaxation." The same stimuli are presented three times in this session and then the patient is aroused as described previously.

At the next session the first item is again presented and, if accepted without anxiety, one proceeds immediately to the second stimulus and continues down the list, each session presenting a more fear provoking stimulus. If, however, the patient does show anxiety or fear when asked to picture the given stimulus, the therapist should immediately give instructions to allow the image to fade away and the patient to become completely relaxed and calm, utilizing the code letter to bring this about. Immediately after calmness has been achieved, the last stimulus which was accepted should be presented to the patient three times and the patient brought out of the trance. At this point reassurance is very necessary. An explanation should be given that this is by no means a sign of failure on the part of the patient, but that with more difficult stimuli a slower pace is required. At the next session the accepted stimuli should be presented first and then the anxiety-producing stimulus given again. Usually, no difficulty is experienced the second time; however, if anxiety still prevails it may be necessary to break down the stimulus as illustrated in the case report.

In reference to the theory of reciprocal inhibition, the response inhibitory of anxiety is represented in treatment by the induced state of calmness and relaxation and it occurs in the presence of the anxiety-provoking stimuli. Therefore, the patient is being helped to form new associations, replacing anxiety and fear with calmness and a sense of confidence. This is desensitization.[6]

Deconditioning

The process of deconditioning consists of having the patient actually perform in the real situation, that which has been presented and successfully accepted during the desensitization sessions. The specific "acting-out" of the now reinforced fear situation should take place one week after the ideational presentation. It is important to stress that the patient, who is now accustomed to his code letter, should be instructed that, if at any time he feels uncomfortable during the real life situation he should think of his code letter and thus allow himself to remain calm and confident. With the overcoming of the first real life situation the patient will be very confident and enthused. It is the job of the therapist to share in the progress but also to keep the patient from becoming overanxious and to delay the premature challenges which might be attempted. If overwhelming anxiety arises during the deconditioning exercise, reinforcement at the following hypnotic session will lead to a successful retrial.

Initial treatment will terminate after all stimuli have been accepted under hypnosis and after the patient is capable and confident in coping with previously fear-provoking stimuli.

Case Report

Mrs. A, a 33-year-old housewife and mother of two, noted approximately three years ago that she was afraid to go on the subways. She knew of no reason why this should be so, but when approaching the subway station she would have palpitations and sweating and feel as if her knees were buckling. She told no one of the experience and began taking buses. Approximately three months after the initial attack of anxiety, Mrs. A experienced the same feeling while sitting on a crowded bus and immediately asked to be let off at the next stop. Mr. A, with whom the patient had a good relationship, was informed of the incident and from that time took her by car as she refused to go by public transportation. Things remained *status quo* for the remainder of a year when the patient was shopping and in queue she felt as if all the people in the shop were looking at her. She became short of breath, dropped her packages and ran from the store sobbing and feeling terribly ashamed. Mrs. A gradually became more withdrawn, shopping only when accompanied by her daughter or husband, having no contact with neighbors and terminating all contact with social organizations. One year prior to admission, while getting dressed for a dinner party, Mrs. A had another anxiety reaction and told her husband to go alone for she felt unable to attend. At this time she reports crying hysterically, as her husband left the house "in a huff," feeling very alone and inadequate. Gradually these feelings of insecurity and fear increased to the point that she would not go out for a meal or to a pub for a drink. Mr. A became emotionally estranged from his wife. Not only did he lack the realization of his wife's illness, he felt that she was "putting on" and took many of her actions as a direct rejection of himself. Mrs. A developed an intense fear of going to the hairdresser and for the remaining six months before admission was completely withdrawn, not once leaving her house. At this point Mr. A insisted that she see their family doctor who referred her for consultation and treatment.

Admission physical exam was within normal limits and additional history revealed a "normal" happy childhood, good school record, many friends and an easy adjustment to new situations. Her marriage was happy until the present situation arose, and she was very worried that her husband wanted to divorce her although he had not mentioned this. On careful questioning, there was no specific traumatic incident preceding, coinciding or related to the initial anxiety attack.

During the next two interviews the patient was informed about the relaxation technique and a "hierarchy" of stimuli was developed.

1. Riding on a bus *(least fear provoking)*
2. Riding on subway with husband
3. Riding on subway by herself
4. Going to grocery store with someone (nurse)
5. Going to grocery store alone

6. Going to PTA meeting
7. Going to the hairdressers
8. Going into restaurant with someone (nurse)
9. Going into restaurant alone *(most fear provoking)*

Having arrived at the above list, Mrs. A had three relaxation sessions and was coded to the Greek letter, Beta. The patient was seen four times a week, and the process of desensitization was initiated by asking her to visualize the appropriate stimulus which she could do vividly. When deconditioning began, Mrs. A felt anxious when waiting for the bus, but as instructed she thought of her code letter and was able to take a short bus ride without difficulty. During the next four weeks, she did very well going down through item # 6. When I suggested that she visualize item # 7, going to the hairdresser, Mrs. A raised her left hand, at which time she was immediately told to erase the picture and her code letter, "Beta," was mentioned. The previously accepted stimulus, item # 6, was then presented three times and the session was ended for that day.

Before Mrs. A could accept item # 7, it was necessary to break the stimulus into the following parts:

1. Going to the door of hairdresser with a nurse
2. Going to the door by herself
3. Going through the door with a nurse
4. Going through by herself
5. Getting her hair done with a nurse present
6. Getting her hair done without a nurse present

Each of the above items was presented as a separate stimulus and carried out in the real situation separately. The patient did very well and no further difficulty arose in completing the treatment.

After exactly six weeks, the patient visited the hairdresser in the morning, went shopping for farewell presents for remaining patients and joined her husband for dinner at a London supper club. Mrs. A was seen as an out-patient, on a bi-monthly basis, for six weeks after discharge for reinforcement relaxation sessions and to discuss any major problems which had arisen. She did very well at home, and marital harmony was once again established. A six-month follow-up interview found her without symptoms, old or new, and living a happy, functional life.

COMMENT

While physician-patient rapport is a factor in this method of treatment, as in all medical care, it is felt that this technique has more therapeutic value than can be explained this simply. A review of the traditional approaches to definitive therapy of phobic anxiety states would indicate that the technique described is more effective since it is less time consuming, more patients qualify for treatment and results appear to be better.

Further study with adequate controls is needed to more clearly define the status of this technique in the armamentarium of the physician.

SUMMARY

Relaxation under light hypnosis and its use with desensitization and deconditioning is a very effective treatment for phobic anxiety states, as well as non-specific anxiety and tension conditions. It is felt that this technique can be used effectively in many types of medical practice. The hypnotic method, the "hierarchy" listing, the desensitization and deconditioning procedures are outlined and discussed. These methods are illustrated in the included case report.

The tape recording can be obtained, on loan, through the Office of Continuing Medical Education, M-176, University of Missouri School of Medicine, Columbia, Missouri.

Acknowledgements:

David Stafford-Clark, M.D., D.P.M., F.R.C.P., Psychiatrist-in-Chief, York Psychiatric Clinic, Guy's Hospital, London, England, to whom I am most grateful for his patience, keen interest and willingness to convey to me the method described in this paper.

James M. A. Weiss, M.D., Chairman, Department of Psychiatry, University of Missouri School of Medicine, for the encouragement and enthusiasm which he provided during the planning of my medical experience in England.

Lester E. Wolcott, M.D., Chief, Section of Physical Medicine and Rehabilitation, University of Missouri School of Medicine, for his suggestions, editorial ability and support of this publication.

BIBLIOGRAPHY

1. Stafford-Clark, D.: Psychiatry for Students. London, England: Allen and Unwin Ltd., 1964.
2. Perinpanayagam, M. S.: A Monosymptomatic Phobia Relieved by Behaviour Therapy. Guy's Hospital Reports 114:330, 1965.
3. Ibid., 329.
4. Jones, M. C.: The Elimination of Children's Fears. Journal of Experimental Psychology 7:382, 1924.
5. Wolpe, J.: Experimental Neuroses as Learned Behavior. British Journal of Psychology 243-68, 1952.
6. Wolpe, J.: The Systematic Desensitization Treatment of Neuroses. J. Nerv. Ment. Dis. 132:189, 1961.

Sustained circulatory, respirator and cerebral stimulation for th

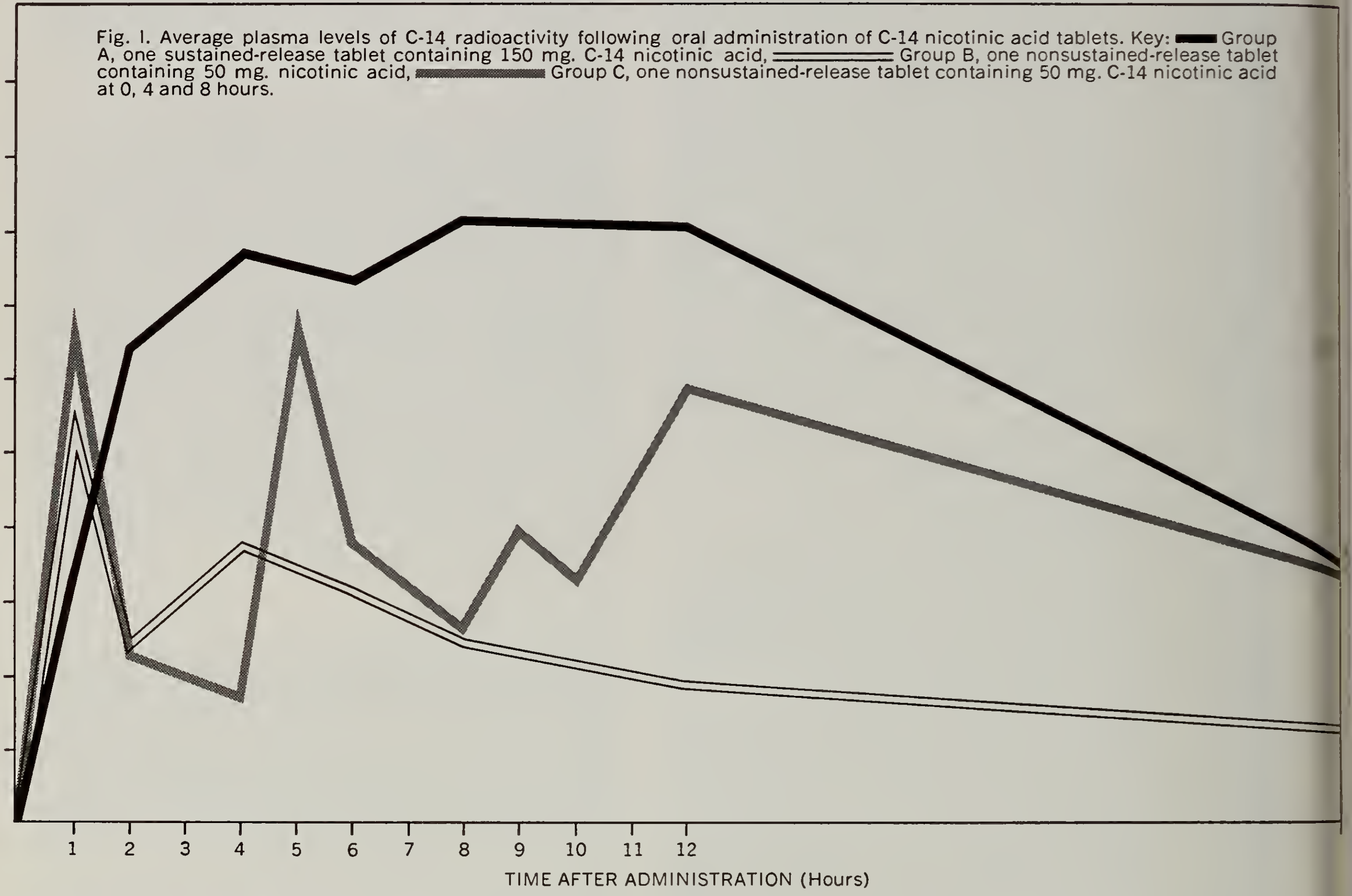


Fig. I. Average plasma levels of C-14 radioactivity following oral administration of C-14 nicotinic acid tablets. Key: ▬ Group A, one sustained-release tablet containing 150 mg. C-14 nicotinic acid, ═ Group B, one nonsustained-release tablet containing 50 mg. nicotinic acid, ▨ Group C, one nonsustained-release tablet containing 50 mg. C-14 nicotinic acid at 0, 4 and 8 hours.

(fewer absent doses by absent-minded patients)

Human volunteer subjects were administered Geroniazol TT tablets with the nicotinic acid component made radioactive with C-14. Plasma and urine samples were analyzed. (See Figures I and II) The radioactive tracer study substantiated the previous clinical evidence that the release of nicotinic acid from the Geroniazol TT tablet produced a gradual rise in plasma levels to a plateau for a total of 12 hours and more.

Such proven sustained activity makes the management of geriatric patients much easier by minimizing the possibility of neglected doses through absent-mindedness or senile confusion. Therapy *can* be continuous on a daily dose of only one Geroniazol TT tablet every 12 hours.

The gradual release of nicotinic acid in Geroniazo TT will provide the well-known peripheral vasodilatation needed in patients with deficient circulation and with a minimum amount (if any) of "flushing." Also, cerebrovascular circulation is complemented by pentylenetetrazol, long-established as a cerebral and respiratory stimulant.

Geroniazol TT improves the typical, unfortunate signs of senile confusion. Patients become more aler

President's Message

Last month on this page we discussed the utilization review committee. We attempted to point out that utilization review is not a concept which blossomed from the fevered brain of a scheming government bureaucrat, but is a logical and professional concept which was first developed and implemented by the medical profession itself. Now our attention is called to one of the potential dangers related to utilization review.

This is the danger of legal action against members of utilization review committees for real or imagined acts in the general area of malpractice. Are members of utilization review committees liable for adverse patient reactions which might be traced to their actions? The answer, I believe, is obvious. They are no more and no less liable for their actions in this area than any of us are for any of our professional acts. Utilization review is not unique in this regard.

The very question, however, should cause the individual physician to check his insurance to be certain that the matter is adequately covered. The National Bureau of Casualty Underwriters suggests a standard clause (see Page 335) which provides protection for the physician who is serving on a utilization review committee, an accreditation committee, a grievance committee or any other professional committee or board of his hospital or medical organization.

Byron M. Stuart, M.D.

I do not pretend any expertise in legal matters, but I like to think that a competent physician serving without malice or ulterior motives to maintain or improve the standards of the profession and the welfare of patients would not have to worry about his legal liability.

This is my idealistic viewpoint. From a practical viewpoint . . . pardon me while I check my insurance coverage!

EDITORIALS

NEITHER ROCKING CHAIR NOR SOCIAL SECURITY

The April issue of Missouri Medicine again devoted its pages to original papers from the University of Missouri School of Medicine. Coincident with that particular M.U. contribution was the 65th birthday of its world renowned physician-alumnus, Dr. Howard A. Rusk. One of the least retiring and most widely recognized of Missouri's many graduates, he will stride past this milestone of official senility-by-decree with his characteristic tireless energy. During recent years Dr. Rusk and his rehabilitation work have received increasing attention from both lay and medical press until his name is nearly a household word. What is not as well-known, however, are the 40 years of Missouri education, medical practice and general background which formed an integral part of his unique career.

An only child, Howard Rusk was born and raised in Brookfield, Missouri. He declined to follow his merchant father into business but instead began a premedical curriculum at the University of Missouri in 1919. The following summer he lived in the local Boone County Hospital, where he "soaked up the smells of medicine" while working as an orderly. Brief contact there with epileptic patients stimulated a lifelong interest in that disease, and his later support of the Epilepsy Foundation resulted in his official recognition by a joint meeting of the U. S. Congress in 1948.

A member of Phi Delta Theta social fraternity and president of the honorary R.O.T.C. society, he entered the two-year School of Medicine in 1921. His anatomy dissection partner was Milton Overholser, who will retire this year after chairing that same department for 33 years. Also, Rusk and his classmates were the first pathology students of M. Pinson Neal, M.D., who is still active as Professor Emeritus and former Acting Dean.

R.O.T.C. Cadet Colonel Rusk received his A.B. from Missouri in 1923 and completed his medical studies at Pennsylvania in 1925. Returning home, the young physician married Gladys Houx of Marshall, Missouri and soon after started his 16-year sojourn in St. Louis. The fashionable and successful semi-academic medical practice included positions as Instructor of Internal Medicine at St. Louis University and Barnes Hospital and Associate Chief of Staff at St. Luke's.

Shortly after Pearl Harbor, newly-commissioned Major (later Brig. General) Rusk was named Chief of Medicine at Jefferson Barracks, Missouri. Distressed by the prolonged idleness of recuperating Air Force patients, he originated the pioneering Convalescent Training Program, forerunner of modern physical rehabilitation.

Howard Rusk's trail since those early Missouri days has been thoroughly marked by the kudos of the free world. He has: served as advisor to three U. S. Presidents and 38 foreign countries; has been the recipient of two dozen major awards and citations; and holds active membership in numerous health committees and organizations.

In 1948 Rush became Chairman of the world's first Department of Physical Medicine and Rehabilitation at New York University, and later became Director of the N.Y.U. Institute of PM and R. In addition, he has authored or co-authored five textbooks and dozens of scientific papers. Two decades of lay readers have been exposed to his weekly by-lined column in the New York *Times*, from which he spreads the gospel concerning chronic disease and disability.

From the first of his 18 honorary degrees (Missouri, 1947) to his last (Missouri Valley, 1965) his ties with Missouri have remained close. Besides being a former trustee of Westminster College, he actively supported founding the University's new four-year School of Medicine at Columbia in 1954.

Such a record of initiative, resourcefulness and international recognition needs little further commentary. Indeed, the unique character and humane consequences of Howard Rusk's work speak for themselves. If judged by the past, his future is clear. In tradition befitting Missouri physicians everywhere, Howard Rusk will acknoweldge neither his 65th year, the rocking chair nor the O.A.S.I.

PAUL C. WHEELER, M.D.
Columbia

ETHICS: AN INDIVIDUAL RESPONSIBILITY

In Chicago on March 5 and 6 the Judicial Council of the American Medical Association sponsored the little publicized, but extremely important, First National Congress on Medical Ethics. The Congress was called to permit a reappraisal of our well established code of ethics and an exchange of ideas and experiences by delegates from all of the states plus observers from Canada, governmental services and the allied medical sciences.

Short and to-the-point presentations ranged from "Medicine's Relationship to Optometry and Podiatry" to "Life or Death, Whose Decision?" An afternoon of workshops permitted all participating delegates to enter the spirited discussions of ethical problems relating to their own local situations.

The basic rules of good conduct and behavior remain unchanged. The individual physician, however, finds himself in a changing world . . . in a post-industrial society where the public acceptance of his scientific skill and judgment was never greater, but where there are increasing pressures toward control of this skill and judgment by lay persons or governmental agencies. In this situation we must not let the discipline of our profession slip from our hands. County medical societies must respond immediately to any breach of ethics by an individual member or to any influence from outside the profession which would tend to weaken or pervert our basic principles of conduct. The physician is the pivot in the ever-expanding multiplication of allied sciences and personnel, involved in patient care. He cannot evade his responsibilities to the patient or to all of those other persons who are helping in the care of the sick.

There is a natural reluctance to discipline our colleagues with whom we work every day. If the problem cannot be resolved at the local level, assistance can be had from the state association or from the AMA through its investigating juries and the Judicial Council. Rarely should it be necessary for the AMA to assume original jurisdiction.

Maintainance of ethical professional conduct is an individual responsibility which cannot be evaded or delegated.

ROBERT W. KELLEY, M.D.
St. Louis
Alternate Delegate to the AMA

IMPROVED REPORT ON VD REPORTING

In an earlier editorial we spoke about the widespread lack of reporting of infectious venereal disease cases by practitioners of medicine. At that time we urged greater cooperation on the part of physicians in order that health authorities might be able to do a better job in bringing VD patients to treatment.

Recent reports from health departments over the state of Missouri, especially in the large metropolitan areas, indicate a definite improvement in the situation. VD epidemiologists, whose job it is to interview infected patients and to locate their contacts, are beginning to report that they are receiving increased cooperation and assistance from private practitioners. There appears to be a growing awareness of the problem on the part of the average physician, and his "index of suspicion" is far greater today than it has been in recent years.

Health departments in metropolitan areas estimate that the frequency of reporting of VD cases by private physicians has increased as much as 30% in the past two months. These encouraging signs lead us to believe that the efforts of the American Medical Association and the Venereal Disease Control Committee of the Missouri State Medical Association are beginning to bear fruit. The public information media . . . press, radio, television . . . have been most helpful in breaking the "curtain of silence" which has surrounded the subject of VD for so long. Educators are beginning to become aware of their responsibilities in the broader field of health education. And the private practitioner is becoming more cognizant of his vital role in the specifics of VD eradication.

W. J. Brown, Chief of the Venereal Disease Office of the U. S. Public Health Service, Atlanta, Georgia, has stated that the private physician's reporting of VD cases is the "key" to eradication. We hope that physicians of Missouri will continue to serve in this "key" position and that their service will lead eventually to effective control of this ancient malady.

ARTHUR W. NEILSON, M.D.
St. Louis
Member MSMA Committee on
Control of Venereal Disease

Woman's Auxiliary

You've heard much of the phrase "the doctor's image"—but have you ever thought about the "image" of the doctor's wife?

At our State Fall Conference in Poplar Bluff last October, the wife's "image" was discussed by a guest speaker, Mrs. Willard C. Scrivner of East St. Louis, Illinois.

Mrs. Wallace R. Stacey

There are various types of wives. We have: (1) the young doctor's wife who frequently has small children and not enough time or money to devote to any type of work outside the home; (2) the older doctor's wife who has put in many years of auxiliary work and is ready for retirement; (3) the wife who is involved in many civic and service activities, such as, scout work, League of Women Voters, Junior League, symphony guild, Red Cross, etc., etc.; (4) the wife who is engrossed in any activity which has to do with personal pleasures. This list could be expanded boundlessly. I leave it to your imagination.

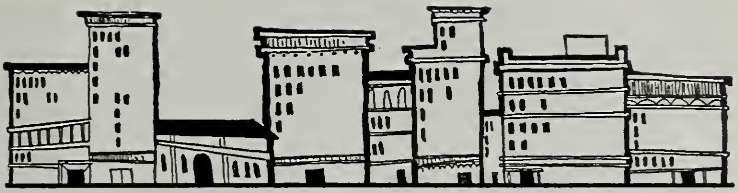
As doctors' wives we are always subject to public scrutiny. Do we dress tastefully? Are our children well behaved? Do we as wives create a good impression when dealing with lay people? Do we devote enough of our "endless" time toward community efforts? As Mrs. Scrivner said, "We are much like Caesar's wife—supposed to be without a blemish and above reproach!"

The Woman's Auxiliary is tailor-made for creating an "image" of the doctor's wife. It is a privilege to belong and a duty to be informed about subjects relating to our husband's work. More and more women of this day are giving generously of themselves in the direction of their church, the school, all kinds of community efforts and even politics. We should be proud to be helpful in any way that has a direct bearing on the welfare of our families and that of future generations. If, to this, we can add the distinction of becoming a good auxiliary member, we announce to the world that we stand shoulder-to-shoulder with our professional partners and support them solidly. If we are to create a proper "image" in the minds of the community in which we live, we must first reach our husbands!

We implore you, as doctors, to take a good long look at your Auxiliary. Get to know us. Become familiar with the work we strive to do. Do we measure up to the kind of "image" you expect of your wife? Are we the kind of auxiliary to which you'd like your wife to belong?

We are eager to be of service to our county, state and nation, but most of all we wish to portray the kind of "image" you, our husbands, most desire.

From the Medical Schools



WASHINGTON UNIVERSITY

Dr. Carl F. Cori, head of the Department of Biochemistry at the School of Medicine, will take a year's leave of absence beginning in September. He will be visiting biochemist at the Massachusetts General Hospital in Boston, where he will do research in carbohydrate metabolism and serve as consultant. Dr. Cori, Distinguished Service Professor of Biological Chemistry at the School of Medicine, will retire July 1 as head of the Department of Biochemistry.

Internship appointments for 83 senior students at the School of Medicine have been announced by Dr. John C. Herweg, Associate Dean. The appointments become effective July 1 and are contingent on each student receiving his M.D. degree in June. Twenty-four graduates will remain in St. Louis at the teaching hospitals associated with the School of Medicine.

R. W. Sperry, Ph.D., Hixon Professor of Psychobiology, California Institute of Technology, Pasadena, presented the eleventh annual George H. Bishop Lecture in Experimental Neurology in April. Dr. Sperry discussed the functional effects of sectioning the cerebral commissures.

Dr. Robert D. Utiger, Assistant Profesor of Medicine, has been named a Markle Scholar for the years 1966-71. He joined the School of Medicine faculty in 1963 where he is a member of the metabolism division and serves as assistant director of the Clinical Research Center. He is currently attempting to develop a method for the immunologic assay for thyroid stimulating hormone.

MISSOURI UNIVERSITY

"Diabetes Mellitus" will be the topic for the 11th Annual Spring Conference May 11-12 at the Columbia campus of the School of Medicine. Conference sessions run from 9 a.m. to 5 p.m. in the Medical Center Auditorium. The guest faculty and their topics include Alexander Marble, M.D., Assistant Clinical Professor of Medicine, Harvard University (The Cause of Diabetes Mellitus); Stefan S. Fajans, M.D., Professor of Internal Medicine, University of Michigan, Ann Arbor (Early Diabetic States in the Adult); Harold K. Roberts, M.D., 110 South Clayton Ave., Clayton, Mo. (Questions and Answers about Diabetic Detection); David M. Kipnis, M.D., Assistant Professor of Medicine and Director, Clinical Research Center, Washington University School of Medicine, Assistant Physician, Barnes Hospital, St. Louis (Where Does Insulin Act?).

For further information about the conference, contact the Office of Continuing Medical Education, University of Missouri Medical Center, Columbia, Missouri 65201.

Dr. James M. A. Weiss, professor and chairman of the Department of Psychiatry, was named president of the Missouri Academy of Psychiatry at its first meeting held in Kansas City March 28. This is the first statewide psychiatric society to be formed in Missouri. Purpose of the new organization is to encourage increased participation of psychiatrists in organized medicine and to promote high professional standards. The Academy will meet each year during the annual sessions of the Missouri State Medical Association.

ST. LOUIS UNIVERSITY

Announcement of the appointment of Dr. Ernest N. Boettcher as new director of the St. Louis University Hospitals has been made by the Rev. Edward J. Drummond, S.J., Vice President for the Medical Center. Dr. Boettcher, associate executive director of the Hartford Hospital, Hartford, Conn., will assume the post on June 1. He succeeds John B. Warner, Jr., who has resigned to establish J. B. Warner and Associates, a hospital consultancy firm to be headquartered in St. Louis. Dr. Boettcher will be the first physician-administrator of the St. Louis University Hospitals.

Since 1961, Dr. Boettcher has been associated with Hartford Hospital, an 800 bed institution. He is regarded as a national authority on fire safety in hospitals as a result of intensive studies following the fire at Hartford Hospital Dec. 8, 1961. In a series of articles in the *Journal of the American Hospital Association*, his conclusions stress the prevention of smoke development and spread and the protection of patients when evacuation from their rooms is not possible. His findings have affected hospital administrators, hospital architects and hospital suppliers throughout the United States and have caused many states to revise their fire regulations.

MEDICAL SCHOLARSHIPS ANNOUNCED

The Medical Department of Pfizer Laboratories, Division of Chas. Pfizer & Co., Inc., has announced that it will make available 90 medical student scholarships for the 1966-1967 academic school year.

The scholarship program provides each of the 90 medical schools in the United States with a $1,000.00 scholarship. These scholarships are administered solely by the dean of each medical school, or by a committee established by him.

Selection of the recipient of the scholarship may be on the basis of scholastic record, financial need, or other criteria determined by the individual medical school. The scholarships are designed primarily to apply toward academic and subsistence expenses of one student in each of the medical schools in the United States.

Since their inception in 1962, the Pfizer scholarships have been accepted in each of the medical schools in the United States. In addition to this scholarship, Pfizer has also provided the American Medical Association's Educational and Research Foundation with $350,000 in the past four years for the Foundation's student loan guarantee program.

In Memoriam

Clark, Harold B., M.D., Kansas City, a graduate of the University of Kansas, 1902; member of Jackson County Medical Society; aged 82; died February 13, 1966.

Schorer, Edwin H., M.D., Kansas City, a graduate of the University of Maryland, 1906; member of Jackson County Medical Society; aged 85; died February 25, 1966.

Webster, Roger W., M.D., Hayward, California, a graduate of California Eclectic Medical College, 1899; member of Jasper County Medical Society; aged 88; died March 12, 1966.

Hobbs, Earl B., M.D., Smithville, a graduate of the St. Louis University, 1925; member of Clay County Medical Society; aged 68; died March 13, 1966.

Hyndman, Charles E., M.D., St. Louis, a graduate of Washington University, 1906; member of St. Louis Medical Society; aged 85; died March 24, 1966.

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MUCOUS COLITIS
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BLADDER SPASM
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The high therapeutic index permits dosage sufficient to relieve spasm promptly. The usual initial dose is 4 tablets. Maintenance dosage is usually one or two tablets 4 times a day.

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BETA-DIETHYLAMINOETHYL DIPHENYLTHIOACETATE HYDROCHLORIDE

Directly relaxes smooth muscle spasm
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New Members

William M. Brownell, M.D., 3600 Troost, Kansas City, has become a member of Jackson County Medical Society. Dr. Brownell is a native of Oneonta, New York, received his preliminary education at the University of Wichita and his M.D. degree at the University of Kansas in 1944. He specializes in physical medicine and rehabilitation.

J. H. Cottey, M.D., 222 S. 2nd St., St. Charles, has become a member of Lincoln-St. Charles County Medical Society. Dr. Cottey is a native of Kirksville, received his preliminary education at the University of Missouri and his M.D. degree at the University of Missouri in 1960. He specializes in surgery.

H. D. Dierker, M.D., Harwood & Chestnut, Lebanon, has become a member of Mid-Missouri County Medical Society. Dr. Dierker is a native of Kansas City, Kansas, received his preliminary education at Central Missouri State College and his M.D. degree at the University of Missouri in 1962. He is in general practice.

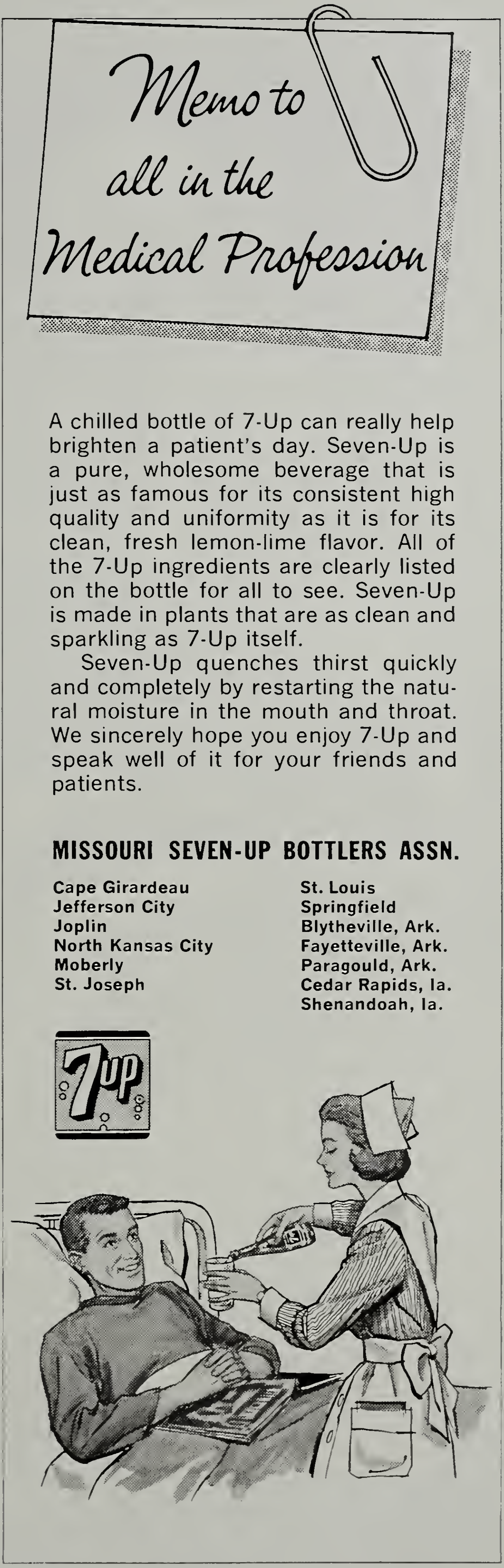
Ira J. Friedman, M.D., 2428 Woodson Rd., St. Louis, has become a member of St. Louis County Medical Society. Dr. Friedman is a native of New York, New York, received his preliminary education at the University of Arkansas and his M.D. degree at the University of Arkansas in 1960. He specializes in pediatrics.

Glenn L. Gore, M.D., 207 N. 5th St., St. Charles, has become a member of Lincoln-St. Charles County Medical Society. Dr. Gore is a native of St. Louis, received his preliminary education at Kansas University and his M.D. degree at Tulane University in 1957. He specializes in obstetrics and gynecology.

D. V. Longo, M.D., 255 N. Adams, Lebanon, has become a member of Mid-Missouri County Medical Society. Dr. Longo is a native of New Orleans, received his preliminary education at Tulane University and his M.D. degree at Tulane University in 1926. He specializes in general surgery.

Marie O. Mowrer, M.D., 1420 Grattan St., St. Louis, has become a member of St. Louis County Medical Society. Dr. Mowrer is a native of Sparta, Illinois, received her preliminary education at Southern Illinois University and her M.D. degree at the University of Illinois in 1951. She specializes in psychiatry.

(Continued on page 384)


Memo to
all in the
Medical Profession

A chilled bottle of 7-Up can really help brighten a patient's day. Seven-Up is a pure, wholesome beverage that is just as famous for its consistent high quality and uniformity as it is for its clean, fresh lemon-lime flavor. All of the 7-Up ingredients are clearly listed on the bottle for all to see. Seven-Up is made in plants that are as clean and sparkling as 7-Up itself.

Seven-Up quenches thirst quickly and completely by restarting the natural moisture in the mouth and throat. We sincerely hope you enjoy 7-Up and speak well of it for your friends and patients.

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Anatomy of
Low Back Pain #1
the sedentary life
is often the seat of
low back pain

The human spine is not engineere
prolonged sitting at desks, pianos, t
writers and drafting boards. The stre
set up by the heavy, forward-tilted
and trunk, balanced precariously o
insufficient base, result in strain o
dorsal musculature, particularly at
low lumbar level.

*The unusual muscle-relaxant and a
gesic properties of 'Soma'* make it e
cially useful in the treatment of low
sprains and strains. 'Soma' is w
prescribed ☐ **to relieve pain** ☐ **to r**
muscles ☐ **to restore mobility.**

Indications: 'Soma' is useful for manageme
muscle spasm, pain, and stiffness in a varie
inflammatory, traumatic, and degenerative m
loskeletal conditions. It also may act to norm
motor activity in certain neurologic disturba

Contraindications: Allergic or idiosyncratic
tions to carisoprodol.

Precautions: 'Soma', like other central ne
system depressants, should be used with ca
in patients with known propensity for takin
cessive quantities of drugs and in patients
known sensitivity to compounds of similar c
cal structure, e.g., meprobamate.

Side Effects: The only side effect reported wi
frequency is sleepiness, usually on higher
recommended doses. An occasional patient
not tolerate carisoprodol because of an indiv
reaction, such as a sensation of weakness.
rarely observed reactions have included dizzi
ataxia, tremor, agitation, irritability, headach
crease in eosinophil count, flushing of face
gastrointestinal symptoms.

One instance each of pancytopenia and
penia, occurring when carisoprodol was a
istered with other drugs, has been reported, a
an instance of fixed drug eruption with carisop
and subsequent cross reaction to meproba
Rare allergic reactions, usually mild, have inc
one case each of anaphylactoid reaction with
shock and angioneurotic edema with respi
difficulty, both reversed with appropriate the
In cases of allergic or hypersensitivity reac
carisoprodol should be discontinued and app
ate therapy initiated. Suicidal attempts may
duce coma and/or mild shock and respi
depression.

Dosage: Usual adult dose is one 350 mg.
three times daily and at bedtime.

Supplied: Two Strengths: 350 mg. white t
and 250 mg. orange, two-piece capsules.

Before prescribing, consult package circular.

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of low back
sprains and strai**

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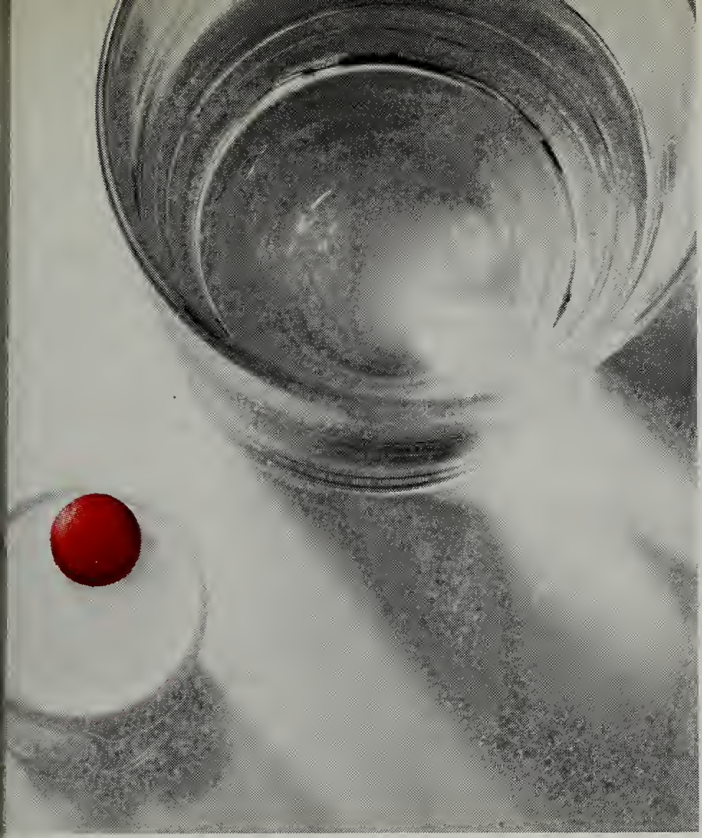

one mid-morning

one mid-evening

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For Adults–2 tablets provide a full 24 hours of therapy...with all the extra benefits of DECLOMYCIN...lower mg intake per day...proven potency... 1-2 days' "extra" activity to protect against relapse or secondary infection.

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DEMETHYLCHLORTETRACYCLINE
300mg FILM COATED TABLETS

Effective in a wide range of everyday infections—respiratory, urinary tract and others—in the young and aged—the acutely or chronically ill—when the offending organisms are tetracycline-sensitive.

Warning — In renal impairment, usual doses may lead to excessive systemic accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of discomfort.

Precautions and Side Effects — Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken. Use of demethylchlortetracycline during tooth development (last trimester of pregnancy, neonatal period and early childhood) may cause discoloration of the teeth (yellow-grey-brownish). This effect occurs mostly during long-term use but has also been observed in short treatment courses. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment. Side reactions include glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis and dermatitis. If adverse reaction or idiosyncracy occurs, discontinue medication and institute appropriate therapy. Anaphylactoid reactions have been reported.

Average Adult Daily Dosage: 150 mg q.i.d. or 300 mg b.i.d. should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products.

Capsules: 150 mg of demethylchlortetracycline HCl.

Tablets: film coated, 300 mg, 150 mg, and 75 mg of demethylchlortetracycline HCl.

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New Members (Cont'd)

John R. Philp, M.D., 414 E. 12th St., Kansas City, has become a member of Jackson County Medical Society. Dr. Philp is a native of Los Angeles, California, received his preliminary education at the University of California and his M.D. degree at the University of California in 1943. He specializes in public health.

Richard G. Quevy, M.D., 753 Ambois Dr., St. Louis, has become a member of St. Louis County Medical Society. Dr. Quevy is a native of Pekin, Illinois, received his preliminary education at Millikin University and his M.D. degree at St. Louis University in 1963. He specializes in neurology.

Barbara J. Spies, M.D., 5801 E. 113th St., Kansas City, has become a member of Jackson County Medical Society. Dr. Spies is a native of Sterling, Kansas, received her preliminary education at Kansas State University and her M.D. degree at the University of Kansas in 1952. She is in general practice.

Stanley E. Stumpf, M.D., Joe Knight Bldg., Lebanon, has become a member of Mid-Missouri County Medical Society. Dr. Stumpf is a native of New Orleans, received his preliminary education at Tulane University and his M.D. degree at Tulane University in 1961. He is in general practice.

James A. Wells, M.D., 600 E. 45th St., Kansas City, has become a member of Jackson County Medical Society. Dr. Wells is a native of Kirksville, received his preliminary education at the University of Missouri and his M.D. degree at the University of Missouri in 1960. He specializes in anesthesiology.

Charles E. Windsor, M.D., 100 N. Euclid Ave., St. Louis, has become a member of St. Louis County Medical Society. Dr. Windsor is a native of Berwyn, Illinois, received his preliminary education at Carleton College and his M.D. degree at the University of Rochester in 1960. He specializes in ophthalmology.

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NEW FROM TUTAG for prompt, comfortable diuretic action with a balanced excretion of sodium chloride and a lower potassium loss under normal dosage and diet regimen

DIURETIC ACTION: Clinically, the oral administration of AQUATAG (benzthiazide) results in diuretic activity within two hours with maximal natriuretic, chloruretic, and diuretic effects occurring during the fourth, fifth and sixth hours. Maintenance of response continues for approximately 12 to 18 hours. Acidosis is an unlikely complication since therapeutic doses of AQUATAG (benzthiazide) do not appreciably increase bicarbonate excretion. Edematous patients receiving 50 mg. of AQUATAG (benzthiazide) daily for five days developed a maximal increase in the rate of sodium excretion on the first day, and maintained this high rate until depletion of excessive body stores of sodium.

In congestive heart-failure patients, AQUATAG (benzthiazide) produced the same weight loss, during a 48-hour treatment period as did a maximally effective dose of hydrochlorothiazide.

DOSAGE: Diuresis, initially 50 to 200 mg.; maintenance 25 to 150 mg., daily. Hypertension 50 to 100 mg. initially, adjusted to 50 mg. t.i.d. or downward to minimal effective dosage level.

PRECAUTIONS AND SIDE EFFECTS: Electrolyte imbalance with hypokalemia, hypochloremic alkalosis and hyponatremia may occur. Other reactions may include blood dyscrasias, hyperuricemia and gout, nausea, jaundice, anorexia, vomiting, diarrhea, dizziness, paresthesia, photosensitivity and headache. Insulin requirements may be altered in diabetes.

WARNINGS: Dosage of coadministered antihypertensive agents should be reduced by at least 50%. Use with caution in edema due to renal disease; advanced hepatic disease or suspected presence of electrolyte imbalance. Stenosis or ulcer of small intestine have been reported with coated potassium formulas and should be administered only when indicated. Until further clinical experience is obtained, the use of the drug in pregnant patients should be carefully weighed against possible hazards to the fetus.

CONTRAINDICATIONS: AQUATAG (benzthiazide) is contraindicated in progressive renal disease or disfunction including increasing oliguria and azotemia. Continued administration of this drug is contraindicated in patients who show no response to its diuretic or antihypertensive properties.

Before prescribing or administering, read the package insert or file card available on request.

Available as 25 or 50 mg. scored tablets.

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Missouri Medical Meetings

Component Society Meeting Dates

Audrain County Medical Society—third Monday of each month.
Barton-Dade County Medical Society—third Wednesday of each month.
Benton County Medical Society—meets only on call.
Boone County Medical Society—first Tuesday of each month.
Buchanan County Medical Society—first Wednesday of each month.
Butler-Ripley-Wayne County Medical Society—first Wednesday of each month.
Callaway County Medical Society—third Thursday of each month.
Cape Girardeau County Medical Society—first Monday of each month.
Chariton-Macon-Monroe-Randolph County Medical Society—second Thursday of each month, September through May.
Clay County Medical Society—last Tuesday of each month.
Clinton County Medical Society—meets only on call.
Cole County Medical Society—fourth Tuesday of each month.
Cooper County Medical Society—first Monday after the 15th of each month.
Dallas-Hickory-Polk County Medical Society—first Wednesday of each month.
Dunklin County Medical Society—first Tuesday of each month.
Franklin-Gasconade-Warren County Medical Society—first Tuesday of each month at the St. Francis Hospital, Washington, at 7:00 p.m.
Grand River Medical Society (Caldwell-Carroll-Livingston, Grundy-Daviess, Harrison, Linn, Mercer, DeKalb)—second Thursday of each month.
Greene County Medical Society—fourth Friday of each month.
Henry County Medical Society—meets only on call.
Howard County Medical Society—meets only on call.
Jackson County Medical Society—March, May, October and December.
Jasper County Medical Society—second Tuesday of each month, September through May.
Jefferson County Medical Society—meets fourth Tuesday of each month.
Johnson County Medical Society—meets only on call.
Lafayette-Ray County Medical Society—second Tuesday of each month at 7:30 p.m., at the Victory Cafe, Lexington.
Lewis-Clark-Scotland County Medical Society—meets only on call.
Lincoln-St. Charles County Medical Society—fourth Tuesday of each month.
Marion-Ralls-Shelby County Medical Society—third Tuesday of each month, 7:30 p.m.
Mid-Missouri County Medical Society (Phelps-Crawford-Dent-Pulaski-Maries-Laclede)—fourth Thursday of each month.
Miller County Medical Society—meets only on call.
Mineral Area County Medical Society (St. Francois-Iron-Madison-Washington-Reynolds-Ste. Genevieve)—fourth Thursday of each month.
Moniteau County Medical Society—second Thursday of each month.
Nodaway-Holt-Atchison-Gentry-Worth County Medical Society—second Tuesday of each month.
North Central Counties Medical Society (Adair-Schuyler-Knox-Sullivan-Putnam)—meets only on call.
Ozarks Medical Society (Barry-Lawrence-Stone-Christian-Taney-Newton-McDonald)—second Tuesday of each month, September through June.
Pemiscot County Medical Society—third Thursday of each month.
Perry County Medical Society—second Thursday of each month.
Pettis County Medical Society—third Monday each month, September through May.
Pike County Medical Society—third Tuesday of each month.
Platte County Medical Society—meets only on call.
St. Louis County Medical Society—second and fourth Wednesday of each month.
St. Louis Medical Society—third Tuesday of each month, October through May.
Semo County Medical Society (Stoddard, New Madrid, Mississippi, Scott)—third Wednesday of each month, September through May.
South Central Counties Medical Society (Howell-Oregon-Texas-Wright-Douglass-Ozark)—fourth Wednesday of each month.
Webster County Medical Society—meets only on call.
West Central Missouri Society (Bates-Cass-St. Clair-Vernon-Cedar)—second Thursday of each month.

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TWO MEETINGS SET FOR MAY

All members of the medical and legal professions are invited to a special joint meeting of the St. Louis Medical Society and the St. Louis Bar Association on May 17. The guest speaker of the evening will be Milton Helpern, M.D., chief medical examiner for the City of New York. His topic will be: "The Coroner System Versus the Medical Examiner System." Doctor Helpern appeared before a joint meeting of the Buchanan County Medical Society and the St. Joseph Bar Association last fall to speak on the same subject.

Plans have been announced for the 17th annual Dr. F. G. Thompson, Sr. Lectureship which will be presented on the evening of May 12 at the Thompson, Brumm & Knepper Clinic Building in St. Joseph. The 1966 lecture will be delivered by George A. Hallenbeck, M.D., professor of surgery and physiology at the Mayo Graduate School of Medicine and consultant in surgery at the Mayo Clinic. His subject will be: "The Present Status of Organ Transplantation." All members of the profession are invited to attend.

Dr. Paul R. Whitener, Immediate Past President of MSMA, (l) receives check for $750.00 from Leroy Weidle, President of the Knight Drug Company of St. Louis (r), for the Missouri State Medical Foundation. This is the second time that the Knight Drug Company has contributed to the Foundation's medical student loan program.

Bamadex® Sequels®

Contraindications: In hyperexcitability and in agitated prepsychotic states. Previous allergic or idiosyncratic reactions.

Precautions: Use with caution in patients hypersensitive to sympathomimetic compounds, who have coronary or cardiovascular disease, or are severely hypertensive.

Dextro-amphetamine sulfate: Use by unstable individuals may result in psychological dependence.

Meprobamate: Careful supervision of dose and amounts prescribed is advised; especially for patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g. alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence. Where excessive dosage has continued for weeks or months, reduce dosage gradually. Sudden withdrawal may precipitate recurrence of pre-existing symptoms such as anxiety, anorexia, or insomnia; or withdrawal reactions such as vomiting, ataxia, tremors, muscle twitching and, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, reduce dose—operation of motor vehicles, machinery or other activity requiring alertness should be avoided. Effects of excessive alcohol consumption may be increased by meprobamate. Appropriate caution is recommended with patients prone to excessive drinking. In patients prone to both petit and grand mal epilepsy meprobamate may precipitate grand mal attacks. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

Side Effects: Overstimulation of the central nervous system, jitteriness and insomnia or drowsiness.

Dextro-amphetamine sulfate: Insomnia, excitability, and increased motor activity are common and ordinarily mild side effects. Confusion, anxiety, aggressiveness, increased libido, and hallucinations have also been observed, especially in mentally ill patients. Rebound fatigue and depression may follow central stimulation. Other effects may include dry mouth, anorexia, nausea, vomiting, diarrhea, and increased cardiovascular reactivity.

Meprobamate: Drowsiness may occur and can be associated with ataxia, the symptom can usually be controlled by decreasing the dose, or by concomitant administration of central stimulants. Allergic or idiosyncratic reactions: maculopapular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case of fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis (1 case), anaphylaxis, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdosage may produce drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor, and respiratory collapse.

CLASSIFIED ADS

FOR SALE—Brand new pediatric examining-treatment table with built-in scale, examining table, Jones BMR, Cardiotron ECG machine, Burroughs Sensimatic bookkeeping machine, ideal for Medical Group or Clinic, multiple phone, central dictaphone with four hand sets, cold quartz mercury treatment lamp, American Optical Projecto-chart, Ritter motor driven hydraulic examining and Proctology table. Phone—MIssion 7-5150, St. Louis, Mo.

SPACE AVAILABLE in suite with two internists. Just north of Barnes Hospital. Special consideration to younger man. For information, call St. Louis, Missouri—FOrest 7-4700.

ASSOCIATE WANTED—Well established Internist practicing in mid-town St. Louis Medical Building—specializes in cardio-pulmonary diseases, is looking for an associate. Rapid partnership opportunity so that retirement can be accomplished within a year or so. Must have good medical schooling with special training in cardiology and liking for diseases of chest. For further information, contact Box 323, c/o Missouri State Medical Association, 634 N. Grand Blvd., St. Louis, Mo. 63103.

WANTED—Associate or partner in large general practice—fulfilling and rewarding. Starting income $2,000 monthly. For further information write Box 322, c/o Missouri State Medical Association, 634 N. Grand Blvd., St. Louis, Mo. 63103.

WANTED—General Practitioner to associate in Group Practice. Modern office facilities and accredited hospital. Adequate guaranteed income to start and increases leading to full partnership. Contact Eugene B. Robichaux, M.D., Excelsior Springs, Mo.

FOR SALE—Picker X-Ray equipment, motor-driven table, spot filmer, two rotating-anode tubes, 200 M.A., one owner since 1953. For information contact Box 328, Missouri State Medical Association, 634 N. Grand Blvd., St. Louis, Mo. 63103.

FOR SALE—Bucky table; film bin, cassette storage area and waste bin for X-ray dark room; Birtcher EKG; Proctoscope and new Anoscope; Set-up for D & C; Miscellaneous supplies and surgical instruments; Coleman Spectrophotometer, new. Contact William W. Bradley, M.D., 120 N. Rollins, Centralia, Missouri 65240.

WANTED—General Surgeon who has recently completed training and fulfilled his military obligations to associate with a small group in St. Louis. The work involves industrial and general surgery. Salary for the first two years and full partnership at the end of this period. Discussion of terms open. Contact Box 329, Missouri State Medical Association, 634 N. Grand Blvd., St. Louis, Mo. 63103.

GENERAL PRACTICE VACANCY exists in a town of approximately 25,000. Well established for over 15 years. Gross exceeds $40,000. Hospital privileges available and will introduce if desired. Building and equipment available. Write Box 320, c/o Missouri State Medical Association, 634 N. Grand Blvd., St. Louis, Mo. 63103.

$10,000 buys St. Louis County, Missouri practice and equipment. New 250 M.A. X-Ray and E.C.G. Custom built six room office completely furnished. Rent $350. Suitable for Internist or G.P. Will finance and introduce right party. For information contact Box 327, Missouri State Medical Association, 634 N. Grand Blvd., St. Louis, Mo. 63103.

INTERNIST—for 5-man department in busy and steadily growing northcentral Kansas 13-member multispecialty group. Partnership after salary for two years. Board eligible or Certified. Contact, Gerald R. Arnold, Business Manager, Gelvin-Haughey Clinic, Concordia, Kansas.

FOR SALE—Wappler cold cautery with accessories. Contact Box 326, c/o Missouri State Medical Association, 634 N. Grand Blvd., St. Louis, Mo. 63103.

FOR RENT—Psychiatric office in modern medical center near Barnes and Jewish Hospitals. Share waiting room and secretarial area with two other psychiatrists. Contact Thomas Thale, M.D., 1221 S. Grand Blvd., St. Louis, Missouri 63104.

PSYCHIATRIC RESIDENCIES—July 1, 1966, 600 bed psychiatric hospital with active out-patient department for adults and children. Intensive training program directed toward Board certification. NIMH grant of $12,000 annually to General Practitioner or physicians with four or more years experience in other than psychiatry. Write to: Dr. W. C. Brinegar, Superintendent, Mental Health Institute, Cherokee, Iowa.

LEO H. POLLOCK, M.D.

Missouri Medicine in Review

FORTY YEARS AGO

At the Dallas meeting of the AMA Dr. Jabez N. Jackson of Kansas City was elected President-Elect of the national organization. This is a great honor not only for Doctor Jackson but for every member of the Missouri State Medical Association and in fact of the medical profession of the great Southwest. Not since 1887 has a physician from this territory occupied the high office of President of the AMA. Previous presidents from Missouri were: Dr. Chas. A. Pope, 1854; Dr. John T. Hodgen, 1881; and Dr. E. H. Gregory, 1887.

The Lafayette County Medical Society held its regular monthly meeting in Lexington on Tuesday afternoon, March 9. The meeting was called to order by the President, Dr. Lewis Carthrae, Jr. Dr. Chalkley made the motion that the Society raise the dues to $10.00 of which $8.00 would be sent to the State Association. Road conditions have been very poor this winter, which accounted for the poor attendance.

Several years ago the St. Louis Medical Society, in cooperation with the *St. Louis Post-Dispatch,* undertook to care for crippled children whose parents or guardians were unable to pay for medical service. The program has succeeded in placing a large number of these unfortunate little ones in hospitals in St. Louis.

Dr. E. W. Caveness of Kansas City has been appointed City Health Commissioner. He took charge of the department on April 10, succeeding Dr. Herman E. Pearse who had been filling the position temporarily until the provisions of the new city charter went into effect.

TWENTY-FIVE YEARS AGO

Prior Shelton, M.D., Kansas City, reports, "Curare in combination with metrazol has been used in 143 treatments to 32 patients in the Neurological Hospital with uniform results. The therapeutic effect of the metrazol has been unaltered, but the muscle spasm has been so reduced that not a single complication or even a complaint of muscle soreness followed treatment."

The 84th Annual Session of the Missouri State Medical Association will be held in St. Louis, April 28-30, 1941. All sessions will be held in the Jefferson Hotel. Guest speakers at the session will include: Drs. Walter C. Alvarez, Rochester, Minnesota; A. E. Bennett, Omaha; Willard M. Allen, St. Louis; Meyer Bodansky, Galveston; Russell L. Cecil, New York; Samuel A. Cosgrove, Jersey City; Clyde L. Deming, New Haven; Lawrence S. Fallis, Detroit; Harrison F. Flippin, Philadelphia; Paul B. Magnuson, Chicago; R. G. Spurling, Louisville, and Jean M. Stevenson, Cincinnati.

TEN YEARS AGO

Walter S. Sewell, M.D., Springfield, was elected President-Elect of the Missouri State Medical Association at the 98th Annual Session held in St. Louis, April 8-11, 1956.—Newly elected as treasurer of the American Academy of General Practice is Charles E. Martin, M.D., St. Louis.—The seventh annual Dr. F. G. Thompson, Sr., Lecture will be presented in St. Joseph on May 21 by William Dameshek, M.D., Boston, on "The Spleen and Hypersplenism."

The Grand River Medical Society met March 8 at the Strand Hotel, Chillicothe, with 25 members, 20 Auxiliary members and five visitors present. It was reported that Dr. and Mrs. Willard Ellsworth of Cainsville were injured recently in an automobile accident. By unanimous vote the Secretary was asked to write a letter extending the sympathy of the Society.

On Wednesday night, March 21, some 120 people, including doctors, their wives and guests, held a dinner meeting at the Whiteman Air Force Base, Sedalia. The meeting was a result of an invitation of the Staff of the 340th Tactical Hospital at the Air Base. A social hour and dinner were held at the Officers' Club. The doctors then retired to the Base Hospital where they were privileged to hear an excellent discussion on "The Management of Massive Gastrointestinal Hemorrhage," by William A. Knight, Jr., M.D., St. Louis.

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Information for Contributors

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STRESSCAPS

AMA's 115th Annual Meeting to Offer Varied and Valuable Scientific Program

Population expansion, a subject much discussed in both medical and lay circles, will be one of six topics presented in general scientific sessions at this year's Annual Convention of the American Medical Association. The Convention is to be held in Chicago June 26-30. The scientific program will be at McCormick Place, and the House of Delegates will convene at the Palmer House.

Scientific Sections of the AMA Council on Postgraduate Programs taking part in the session on population expansion will be Preventive Medicine, General Practice, Internal Medicine, Obstetrics and Gynecology, and Pediatrics. The general scientific meetings are open to all physicians attending the Annual Convention. Other general scientific meetings on this year's program will be on the subjects of: emphysema, burns, mysterious fevers, community hospital coronary care units and headache.

In addition to the general sessions, each of the 23 Scientific Sections will present scientific programs. Many of the Section programs will, as in past years, be joint meetings of two or more Sections and, in some instances, a specialty society.

Psychotherapy and psychopharmacology are both subjects that have moved from the province of the specialist into the area of general medicine. Whether or not the physician actually uses psychotherapeutic techniques in his practice or prescribes drugs for psychiatric disorders, he requires a knowledge in both areas in order to advise his patients and interpret such psychiatric treatment as they may receive.

Sessions on Both Clinical Psychopharmacology and Recent Developments in Psychotherapy will be presented as part of the Scientific Program of the Section on Nervous and Mental Diseases.

Medical motion pictures and color television again will be a feature of the Annual Convention. Medical motion pictures have become an integral part of the program. Motion pictures are carefully screened and selected for quality, content and diversity of subject matter. Some are chosen from the AMA library of medical motion pictures while others are picked from among films just completed. Several new films are usually shown for the first time at the Annual Convention. The total motion picture program is thus planned to achieve both variety and currency.

Both medical motion pictures and color television will be presented daily. Live color television presentations have proven a popular addition to the Annual Convention Scientific Program. Like the movie program the color television program is carefully planned to put the unique educational potential of television at the service of continuing medical education. At last year's Convention in New York, color television cameras took physicians into an operating room to watch surgical procedures.

The entire Scientific Program for the 1966 Annual Convention appeared in the May 9 issue of the *Journal of the American Medical Association.*

A special feature of the American Medical Association's 115th Annual Convention will be a guided tour of AMA headquarters and the new Institute for Biomedical Research. All physicians, their wives and other convention guests are invited to tour the building. Tours will be conducted every hour from 9 a.m. to 4 p.m., Monday, June 27 through Friday, July 1.

A special corps of guides will escort the visitors and answer any questions regarding AMA publications, services and activities.

The Woman's Auxiliary to the AMA will hold its 43rd annual convention in the same time period, June 26-30. More than 2,000 physicians' wives are expected to attend the meeting at Chicago's Drake Hotel. A highlight of the ladies' four-day session will be a talk by Richard C. Cornuelle, author of *Reclaiming the American Dream.* Mr. Cornuelle will speak at the June 27 Guest Day luncheon, to which representatives of national voluntary women's organizations will be invited.

Other events will include the June 26 reception honoring Mrs. Richard A. Sutter, St. Louis, Auxiliary President, and Mrs. Asher Yaguda, Newark, N. J., President-Elect.

Mo Med Schools Share In AMA-ERF Melon

Dr. David N. Kerr, Chairman of the MSMA Council, (left) presents AMA-ERF checks to: Dr. Robert H. Felix, Dean of St. Louis University School of Medicine; Dr. Vernon E. Wilson, Dean of the University of Missouri School of Medicine; and Dr. M. Kenton King, Dean of Washington University School of Medicine. The 1966 grants to Missouri schools totaled more than $37,500.

Checks totaling more than $37,500 have been presented to Missouri's three medical schools by the American Medical Association Education and Research Foundation (AMA-ERF). David N. Kerr, M.D., Chairman of the Council of the Missouri State Medical Association, presented the grants to the deans of the schools at a luncheon at the University Club in St. Louis on April 20, 1966.

Vernon E. Wilson, M.D., Dean of the University of Missouri School of Medicine received $5,672.31; Robert H. Felix, M.D., Dean of St. Louis University School of Medicine, received $17,279.34, and M. Kenton King, M.D., Dean of Washington University School of Medicine, received $14,553.54.

The grants were made from a total of $1,133,583.29 contributed in 1965 to the AMA-ERF Fund for Medical Schools by physicians, their families and allied groups such as the Woman's Auxiliary to the AMA. Deans of the recipient schools may use the grants at their discretion for special projects or expenses outside their regular budgets.

The AMA-ERF program was established in 1951 by the AMA to enable physicians to play a greater part in the financial support of the nation's medical schools. Administrative costs of the fund-raising program are borne by the AMA and its constituent state associations, and none of the contributed money is used to pay expenses of collection or distribution. Since its founding, AMA-ERF has given more than $16-million to schools of medicine. Contributors to the Foundation may designate a specific school to receive their gifts or may give without designation. Undesignated contributions are apportioned among all 88 U. S. medical schools.

AAMA to Meet in St. Louis

Dr. Byron M. Stuart, President of the Missouri State Medical Association, will welcome representatives of nearly every state in the Union when some 600 medical profession's "Girls Friday" converge on St. Louis in October. The occasion will be the 10th Annual Meeting of the American Association of Medical Assistants which will be held at the Chase-Park Plaza Hotel, October 19-23. The Missouri State Medical Secretaries and Assistants Society will be host for the event.

Among those expected to address the group or participate in the program are Dr. Charles L. Hudson, President of the American Medical Association; Dr. Phil Lee, Assistant Secretary to the Department of Health, Education and Welfare; Dr. James L. Goddard, Commissioner of Food and Drugs; and Mr. Bernard Harrison of AMA's Legal Department. The formal program is designed to further advance the knowledge and skill of the medical assistant in dealing with office problems. Workshops will offer training in leadership and professional organization work. Recreational activities have also been planned to precede and follow the formal convention program.

Further information may be obtained from: Miss Corrinne Hallquist, General Chairman, c/o Drs. Baumgarten and Charles, 5505 Delmar Boulevard, St. Louis, Missouri 63112.

The Missouri State Medical Secretaries and Assistants Society installed the following officers during its recent Annual Convention in Excelsior Springs. Mrs. Pearl Neal, Kansas City, President; Mrs. Giselle Miller, Kansas City, Vice-President; Mrs. Marguerite Hubbard, Carthage, President-Elect; Mrs. Dorothy Anderson, St. Louis, Recording Secretary; Mrs. Sue Turner, Ashland, Treasurer; Mrs. Eleanore Eldridge, Kansas City, Corresponding Secretary; and Mrs. Margaret Scott, St. Louis, Parliamentarian.

County Society News

FIRST DISTRICT

COUNCILOR
JOSEPH FISHER, M.D., ST. JOSEPH

Buchanan County Medical Society

Forty-two physicians attended the April 6 meeting of the Buchanan County Medical Society following a dinner at Hotel Robidoux.

Edwin I. Smith, M.D., Chief of Surgery at Children's Mercy Hospital in Kansas City, presented a most interesting illustrated paper on Malignant Disease in Childhood. R. Philip Acuff, M.D., a member of the program committee, introduced the speaker.

Reports on the 108th Annual Session of the Missouri State Medical Association, March 27-30 in Kansas City, were made by the delegates, John N. Martin, M.D., and Ernest E. Wadlow, M.D.

Joseph L. Fisher, M.D., First District Councilor, reported on actions of the Council during the meetings.

William Redmond, M.D., President, presided at the meeting and program.

John L. Mothershead, M.D., *Secretary*

Grand River Medical Society

The Grand River Medical Society and Auxiliary held their regular monthly dinner meeting at the Strand Hotel in Chillicothe on Thursday evening, April 14. There were 35 members and guests present.

At the scientific session, Dr. Albert Upsher, Kansas City, Director of the Upsher Laboratories, gave a very practical and dynamic discussion of, "The Use of Isotopes in Diagnosis—for the General Practitioner."

A short business meeting was held at which hospital utilization committees were discussed.

Albert D. Cross, M.D., *Secretary*

TENTH DISTRICT

COUNCILOR
W. D. ENGLISH, M.D., CARDWELL

Mineral Area County Medical Society

The Mineral Area County Medical Society held its regular monthly meeting on February 24, at the usual meeting place in the Hoctor Building of the State Hospital, Farmington. Dr. C. W. Chastain called the meeting to order at 8:00 p.m.

The speaker for the evening, John McCarthy, M.D., was introduced by the President. Dr. McCarthy gave an interesting discussion of the "Defibrinogenation Syndrome."

After a brief intermission, the business meeting was called to order. The minutes of the previous meeting were read and corrected to read $15,000 instead of $1,500 that was needed by the St. Francois County Red Cross Blood Program. Dr. F. R. Crouch reported $16,000 had been received from the Red Cross and that yearly needs would be $6,000 to $7,000. No Red Cross fund raising drive had been held for two to three years.

Two applications for membership were read, one from Arthur D. Newcomb, M.D. and the other from Jose Jimenez, M.D. They were turned over to the Credentials Committee for its consideration. It was mentioned that the by-laws require a prospective member to appear at a meeting before action would be taken on his application for membership. A motion was made by Dr. George L. Watkins, Jr., that one of the conditions for membership be the prepayment of dues. It was seconded by Dr. Robert A. Huckstep and passed unanimously.

Since no record of recent appointments to the Credentials Committee could be found, the President appointed Charles H. Appleberry, M.D., to a three year term; Marvin Grossman, M.D., to a two year term; and William Ford, M.D., to a one year term. It was then found in the old minutes that two years ago, Dr. Tom R. Burcham had been appointed to a three year term.

Dr. C. E. Michaelis mentioned a series of health talks to be given as part of a Sunday morning religious program, "Life at Its Best," over radio station KFTW, Fredericktown, from 8:30 to 9:00 a.m. The program is to be narrated by Dr. B. A. Michaelis of Fredericktown. It was requested that an opinion be given as to whether this would be permissible to the Medical Society. It was moved by Dr. George L. Watkins, Jr., seconded by Dr. F. R. Crouch, passed by the members present, that Dr. Michaelis be permitted to give the talks.

In attendance were Drs. Appleberry, Chastain, Carlton, Carrillo, Crouch, Ford, Hardy, Huckstep, Hunt, Karraker, Magrinat, C. E. Michaelis, Turner, and Watkins.

The meeting was adjourned at 10:10 p.m.

C. E. Michaelis, M.D., *Secretary*

When uncontrolled diarrhea brings a call for help

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PRECAUTIONS: Succinylsulfathiazole: Use with caution if there is history of significant allergies and/or asthma. Continued use requires supplementary vitamins B_1 and K. *Neomycin:* Watch for

JANIS BURGESS
Columbia

A Medical Student's Experiences in Iran: Unexpected Benefits

WHEN I left Columbia, Missouri, I had little idea of what to expect at my destination, half a world away. I was en route to rural Iran. As a medical student in a modern medical center, I had wanted to gain some experience in a setting where the need for care was great and facilities not so adequate. A Smith Kline & French Foreign Fellowship had made the trip possible for me.

The experience was coming at the end of my junior year in medical school. Because the curriculum at the University of Missouri School of Medicine permits students to spend certain periods in activities of their own choosing, I was able to arrange my schedule to include the trip at this time. During my senior year I would have time to reflect on what I observed during the months spent in Iran and to incorporate this into what I had learned in a more formal way in classroom, laboratory, library, hospital and clinics.

Boin Zahra, Iran, is a village of about 3,000 inhabitants located northwest of Tehran on a high arid plain in the foothills of the Alborz Mountains. To reach it you travel 135 kilometers by jeep or land-rover over dirt roads winding through dusty plains occasionally punctuated by bits of green around isolated villages. Herds of sheep and goats graze on seemingly barren fields and spread nonchalantly across the road. Imperturbable camels parade in caravans along invisible footpaths, and uncomplaining burros carry huge loads of brushwood and feed to distant villages.

My first view of Boin Zahra was not exactly aesthetically pleasing. Piles of rubble and the crumbling remains of mud huts and walls sprawled in often grotesque disarray across the landscape. Bits of pottery, fragments of furniture and forgotten playthings littered the ruins. Sagging walls abruptly disappeared into the ground and empty rooms stood oddly askew, half above or below ground level, the walls cracked and disjointed. It did not seem that it had been nearly three years since the big earthquake occurred.

Faded signs directing the villagers to the emergency care centers still stood, as well as newer signs proclaiming that this village was rebuilt by the National Iranian Oil Company and the next village by Dutch or American or Swedish volunteers.

The road continued through two small plots of ground dotted with flat brick and concrete markers. Here the 600 victims of the earthquake were buried—five, ten, twenty, a complete family in a common grave. The cemetery seems to mark a separation point, for it lies directly between the ruins of the old Boin and the new town, which is an orderly collection of brick and steel houses arranged in block fashion. The clinic compound, surrounded by a high brick wall and steel fence, is composed of three buildings, the clinic itself standing out by virtue of its curiously gay bright blue color in an otherwise drab landscape. It is new and was built for the inhabitants of Boin Zahra by Swedish volunteers, after the earthquake.

I BEGAN work in Boin Zahra in April of 1965 under the supervision of Dr. Akbar Mostatab, who had graduated from the medical school at Esfahan two years earlier. Fortunately, he spoke fluent English. He was completing an 18-month practice outside of Tehran, which is required of all Persian medical graduates. This requirement, though not popular with young physicians, has provided rural areas with medical care otherwise unobtainable for them.

Clinic hours were from 8:00 AM to noon daily, except Friday—which is the Moslem weekend. Patients seen during these hours received medical examinations, medicines and injections without cost, but those coming in the afternoon and at night became the doctor's private patients and paid two tomans (about 25 cents) per visit plus the cost of any medicines they required. During these few hours the patient load was

Each year the Smith Kline & French Laboratories awards fellowships to 28 medical students in the U. S., enabling them to spend three months working in an underdeveloped country of their own choosing. One of the recipients of the 1965 fellowships was Miss Janis Burgess, now a senior in the School of Medicine at the University of Missouri. This account of her experiences in Iran and her reactions to those experiences suggests a mature insight into the needs and the challenges of Medicine in a setting quite different from that to which most American medical students are accustomed.

formidable, ranging from fewer than 30 to more than 90 patients each day.

For the first few weeks the examination procedure consisted of the presentation of a chief complaint to the doctor or nurse's aide in Turkish (the predominant tongue in the village), followed by its translation into Persian for Dr. Mostatab and into English for me. Depending on the nature of the complaint we did a brief physical examination or, if the condition was unfamiliar or particularly interesting for me, I did a more complete one (performed at first in a completely "monkey-see, monkey-do" fashion). Usually, the only facts available from the patient with a chief complaint of fever or chest pain, for example, were the onset of and the duration of the illness, a vague description of accompanying symptoms and little else.

When fever was the presenting complaint, I automatically wanted to do the laboratory tests which are routine in this country. This was folly indeed! There were absolutely no laboratory facilities in the clinic, and the nearest hospital laboratory was in Gazvin, 60 miles away.

This, in reality, was the opportunity to use only "my eyes, hands and mind" to treat patients, a situation which I had so earnestly sought in my fellowship application! It came to be for me, however, a greater handicap than I had anticipated; and as a result the vast majority of patients received only symptomatic treatment—aspirin, penicillin and Vitamin C for "fever," for example.

Patients seriously ill, those with persistent unresponsive complaints, suspected chronic illnesses (like brucellosis or tuberculosis) and any prospective surgical cases were referred to Gazvin or Tehran, often with the knowledge that the patient's family probably would not follow instructions.

This was not medicine as I knew it, but for more than 3,000 people it is the only form of medicine available and, for them, marks a great step forward. The clinic, though now understaffed (one doctor, three aides for injections and dressings, and three unskilled nurse's aides), serves as a screening center for the area. When it is adequately staffed and equipped it will have the potential for providing a full range of clinical services, including immunizations, maternal-child care and deliveries, minor surgical and dental procedures, etc.

MORBIDITY rates are formidable in Boin Zahra and seem to stem primarily from the lack of uncontaminated water, inadequate nutrition, the generally primitive standard of living and the cripplingly low educational level of the people. Mass immunization programs in the country have been sporadic, and most of the children at Boin Zahra have never been vaccinated for anything. Infant mortality in the country as a whole is listed at 200 deaths for every 10,000 live births, and there are a total estimated 1,000,000 births per year. Of these, 400,000 children die in early childhood, one-half of them before the age of five years.

Gastrointestinal diseases (encompassing anything from amebic and bacillary dysentery to infant diarrheas) account for an estimated 41% of these deaths, while infectious diseases and parasites (22%), accidents (20%), nutritional diseases (12%) and allergic manifestations (6%) comprise the remainder of the leading causes of mortality. These national figures are reflected in the morbidity rates in Boin Zahra. When I arrived, the annual measles epidemic was in its last stages, but the number of cases was still shocking. It is estimated that as much as 30% of the total infant population in the country is lost during particularly virulent epidemics. I saw every complication of measles except encephalitis in one or more of the clinic patients.

Rheumatic fever is common, and no program of detection or continuing preventive treatment is available. The beginning of summer marks the opening of the diarrhea and typhoid season. Contaminated water, complete lack of sanitation and hordes of flies compound the problem which harasses adults and children alike. In August, with the news of the El Tor epidemic which killed some 300 persons in the eastern provinces, we went by jeep to give mass cholera immunizations to more than 4,000 people. Fortunately, there were no reported cases in Boin Zahra.

Vitamin deficiencies of all types are an accepted and apparently unchangeable part of life in this part of the world. Vitamin A deficiency is a leading cause of blindness in Boin Zahra. Emaciation is reflected in the pot-bellies of nearly every child in the village. (I examined one five-month-old child who had been fed on nothing but sugar and water for the preceding four months. The mother claimed that she had no milk and the family goat had also dried up. From the appearance of the child, I believed her.)

Intestinal worms are accepted as a matter of course. Measles, chickenpox, whooping cough, smallpox and diphtheria are constant menaces, especially in the winter.

Because the people in Boin Zahra are farmers, as are two-thirds of the population of Iran, living and working closely with their herds of sheep, goats and cattle, zoonoses are to be expected and are found. Brucellosis, tuberculosis and anthrax were all seen in patients at Boin. Herds are not inspected; meat and milk are marketed without controls; and apparently when anthrax is contracted there is no quarantine or slaughter of infected animals as would be required in countries where anthrax has become a disease of the past.

ONE of the things I had wondered about most before going to Boin Zahra was the doctor-patient relationship and the role a physician played in the everyday life of his patients. I was afforded ample opportunity to learn in Boin. The village is unique in the fact that after the earthquake the inhabitants received aid from all over the world—food, new homes, tools, etc.—and they developed a peculiar sort of "welfare-statism." Medical care is free and the villagers miss no opportunity to benefit from it.

The clinic itself also serves as a social center for the neighborhood. Every morning it fills with hordes of people, gossiping, eating and giving precious little consideration or sympathy to those patients who may need treatment. The doctor is expected to cure any and all complaints with an injection which, curiously enough, is the favorite form of treatment with the patients. They often have to be coaxed to accept capsules or syrups in lieu of the "needle." Most of the patients appeared marvelously stoic about pain, even demanding dental extractions although anesthetics were not available.

It is also not uncommon to do uterine curettage without anesthesia. We performed one when a woman who had incompletely aborted at three months maintained she could not go to the hospital at Gazvin. She was hemorrhaging badly, but underwent surgery relatively quietly and did well postoperatively. Her husband was quite pleased with us and the next day he brought a hen in payment!

House calls were also social affairs. At night we went by lantern light to the patient's house, pausing outside to leave our shoes and pausing inside to greet all the rest of the family members who inevitably were present. Examining the patient did not seem as important to the family as accepting their hospitality, which even in the

MORBIDITY REPORT MAY 1 TO JUNE 1, 1965, BOIN ZAHRA*

Disease Category	*No. of Cases*
Abscesses	37
Allergies (including asthma)	49
Amebiasis	8
Anemia (primarily Fe deficiency)	15
Anthrax	2
Ascariasis	14
Bacterial endocarditis (acute)	2
Bronchitis	13
Brucellosis	9
Cardiac insufficiency	17
Cirrhosis and hepatic insufficiency	7
Colitis (nonspecific)	5
Conjunctivitis	16
Epilepsy	1
Fungal skin diseases	4
G. I. disorders (gastritis, ulcers, stomatitis)	46
Glomerulonephritis (acute and subacute)	3
Hypertension	10
Impetigo	17
Mastitis	4
Otitis	24
Pleurisy	4
Pneumonia	15
Renal insufficiency	9
Rheumatic fever (acute and subacute)	60
Rubeola	282
Tonsillitis	18
Trachoma	11
Tuberculosis	7
Typhoid	50
Unclassified diarrheas	153
Vitamin deficiencies	
Vitamin A	24
Vitamin B	18
Vitamin C	16
Vitamin D	2

*Numbers of cases reported are inexact because usually no laboratory confirmation was available and charts were not kept on the patients. Therefore, patients were counted in the disease category for which they received treatment. Often those returning for successive treatment were listed as new cases. No system for reporting infectious diseases exists, and this represents the first attempt of any kind to tabulate morbidity.

lowliest household is formidable. One of my favorite memories will always be the occasion on which I was invited to be a spectator at a home delivery.

Since I was a woman and therefore was allowed to freely examine all female patients (Moslem custom forbids the women to be examined by men), I had built up my own private gynecologic practice. I let it be known that I was interested in delivering any spare babies or seeing them delivered. As a result, I was summoned one morning by the local midwife. There were two in the village, both untrained, suspicious and superstitious, but this one had grudgingly assented to my presence.

When I arrived, the mother-to-be was pacing the floor, pausing occasionally to squat down when her contractions occurred, whereupon the midwife squatted behind her like a football quarterback, judging the progression of labor only by the degree of perineal bulging. The delivery of a healthy squalling boy occurred a few minutes later (accomplished in the same position) in a large silver tray filled with rags. The new mother retired to an adjoining room, not to lie down and rest, as I imagined, but to supervise preparations for refreshments for me. I was escorted to a seat of honor next to the mother and spent the next hour meeting neighbors and relatives, drinking cup after cup of tea which was politely but firmly pressed upon me. They had not seen me before, and we did not have more than twenty words in common. Yet, I was their guest and was offered all of the courtesy and hospitality the household could afford. It was the same during my entire stay, whether I was riding their burros, milking their goats (much to the amusement of onlookers who felt my two-handed rhythm method was hilarious), attending their weddings or simply paying a social call with the doctor's wife.

It is really too soon for me to fully assess the value of my stay in Boin Zahra. As a medical student, I saw disease entities which before had been nothing more than brief paragraphs in textbooks. I saw poverty, ignorance and illness on a scale incomparable with any I'd ever known. At the same time I saw courage, determination, and individual pride surpassed by no one. I knew anger, frustration and impatience at the limits of our ability to treat patients. I felt pride, satisfaction and hope when the little we could do was enough.

Personally, I learned to live and work in a world totally different from the one from which I came, to recognize, bitterly sometimes, the limit of my own capabilities and to know for the first time the tremendous importance of being able to communicate, on the smallest basis, with a fellow human being in a common language.

The cry of pain, of fear, of hunger and of suffering knows no boundaries, no tongue. It is the same in Persian, in Turkish, in English. It is ironic, perhaps, that I went halfway around the world to learn such simple facts. Time will judge whether I have learned them well. I can only be thankful now for having had the opportunity.

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STEPHEN HARNER, M.D., *San Antonio, Texas*

Dextran as an Anticoagulant

Report of a study which is intended to demonstrate the effects of a uniform dose of dextran on the coagulation mechanism in normal human subjects. No significant alteration in clotting mechanism of the patients was noted, but there was definite indication that sedimentation rates were elevated. Doctor Harner is now in an internship at Brooke General Hospital, Fort Sam Houston. This work was undertaken while he was on a surgical clerkship during his senior year at the University of Missouri School of Medicine.

Dextran has been the subject of extensive worldwide research, directed toward determining the mechanism by which it prevents or inhibits intravascular coagulation. As a result of these investigations, some differences have been observed in the therapeutic effects of the dextrans of different molecular weights. Low molecular weight dextran (40,000) has shown definite "anti-sludging" properties, which is valuable in shock and in the cardiopulmonary bypass. Clinical dextran (70,000) has provided greater protection against thrombophlebitis in trauma and in vascular surgery.

Reports in the literature by several groups have shown that clinical dextran significantly reduces the incidence of thrombosis in experimental animals following trauma to blood vessels. This observation has been applied clinically, and dextran has been effectively utilized for prophylaxis against thrombosis following vascular surgery.

The doses of dextran have been empiric, and effective methods of monitoring the antithrombotic effect have not been found. This study was initiated in an effort to investigate the effects of a uniform dose of dextran on the coagulation mechanism in normal human subjects.

Methods

Five patients were selected from the General Surgery service at the University of Missouri Medical Center. None had demonstrated any clinical evidences of a bleeding tendency or of a coagulation defect. They were considered as "normals" and underwent a battery of laboratory tests including: complete blood count, urine analysis, urea nitrogen, alkaline phosphatase, erythrocyte sedimentation rate, platelet count, quantitative fibrinogen, Fibrindex, prothrombin time and partial thromboplastin time. The laboratory work was done by the clinical laboratory at the School of Medicine. A partial thromboplastin time, prothrombin time and Fibrindex were done on each patient's serum and compared to control serum. The sedimentation rate was performed by the Wintrobe method. Platelets were counted on the phase contrast microscope.

After these determinations had been made, a dose of dextran* (mol. wt. 70,000) equal to 2% of the total body weight was administered at a rate of 300 cc per hour. Twelve hours after the infusion was begun, blood was sampled for partial thromboplastin time, prothrombin time, platelet count, quantitative fibrinogen and Fibrindex. The erythrocyte sedimentation rate was also determined in three of the patients. After 24 hours a second infusion was given, equal to 1% of the total body weight, and the same tests were repeated. Twenty-four hours after the second infusion was begun, the laboratory tests were again repeated.

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* The clinical dextran utilized in this study was supplied by the Baxter Laboratories, Baxter Grove, Illinois.

One patient was studied following embolectomy for an acute occlusion of the posterior tibial artery. Postoperatively he was given intravenous dextran continuously at the rate of 75 ml per hour for 120 hours. He was followed in the same manner as the controls.

Results

In the five control patients, no significant changes were detected in the partial thromboplastin time, prothrombin time, platelet count, Fibrindex or quantitative fibrinogen. Unfortunately, the sedimentation rate was not followed in the first two patients. However, this was done in the other three "normal" patients and the sedimentation rates were observed to be consistently elevated following the administration of dextran (Table 1).

This same phenomenon was also observed in the patient who underwent arterial embolectomy (#6). The sedimentation rate was elevated but the other parameters were unaltered. His postoperative course was uncomplicated and there was no clinical evidence of deep venous thrombosis (Table 2).

TABLE 1

Erythrocyte Sedimentation Rate

Patient No.	*Baseline*	*12 Hr.*	*24 Hr.*	*48 Hr.*
3	24	38	47	46
4	7	45	39	40
5	30	49	46	43
6	14	46	52	53

Discussion

This preliminary study confirms the observations of others and failed to disclose any significant alteration in the clotting mechanism of volunteer human patients following the administration of clinical dextran. The sedimentation rates were found to be consistantly elevated in the four patients in whom this test was performed.

This observation deserves further study. The suggestion is offered that serial determinations of the sedimentation rate might be useful in monitoring the clinical effects of dextran and in determining its therapeutic dosage.

Summary

Clinical dextran was shown to significantly alter the sedimentation rate in a small number of patients. No anti-thrombotic effect was discernible by the other laboratory studies employed.

TABLE 2

All Laboratory Tests

Lab Test	*Normal*	*#1*	*#2*	*#3*	*#4*	*#5*
PTT	100 sec.	71-74	65-71	73-134	81-96	73-87
Pro time		14-16	14-15	13-14	14-16	14-17
Quant. fib.	150-300 mgm%	336-678	266-586	280-420	206-211	159-285
Platelets	200-300,000	153-305,000	217-254,000	286-410,000	140-167,000	280-314.000
Fibrindex	100 sec.			2-4	3-6	3-7
ESR	0-15 mm/1 hr.			24-47	7-45	30-49

References

1. Bergentz, S. E., Eikin, O. and Gelin, L. E.: Rheomacrodex in Vascular Surgery. J. Cardiovasc. Surg. 4:388-92, 1963.

2. Bloom, W. L., Harmer, D., Bryant, M. and Brewer, S. S.: Coating of Blood Vessels Surfaces and Blood Cells: A New Concept in the Prevention of Intravascular Thrombosis. Circ. 26:690, 1962.

3. Bryant, M. F., Bloom, W. L. and Brewer, S. S.: Experimental Study of Antithrombotic Properties of Dextrans of Low Molecular Weight. Amer. Surgeon 29:256-60, 1963.

4. Bryant, M. F., Bloom, W. L. and Brewer, S. S.: Study of the Antithrombotic Properties of Dextrans of Large Molecular Weight. J. Cardiovasc. Surg. 5:48, 1964.

5. Bryant, M. F., Bloom, W. L. and Brewer, S. S.: Use of Dextran in Preventing Thrombosis of Small Arteries Following Surgical Trauma. J. Med. Assn. Georgia 50:580, 1961.

6. Just-Viera, J. O. and Yeager, G. H.: Prevention of Thrombosis in Inferior Vena Cava. S.G. & O. 117:271, 1963.

7. Just-Viera, J. O. and Yeager, G. H.: Protection From Thrombosis in Large Veins. S.G. & O. 118:354, 1964.

8. Moncrief, J. A., Darin, J. C., Canizaro, P. C. and Sawyer, R. B.: Use of Dextran to Prevent Arterial and Venous Thrombosis. Ann. Surg. 158:553, 1963.

9. Powley, P. H.: Rheomacrodex in Peripheral Ischemia. Lancet 1:1189, June, 1963.

10. Schwartz, S. I., Shay, H. P., Beebe, H. and Rob, C.: Effect of Low Molecular Weight Dextran on Venous Flow. Surgery 55:106, 1964.

11. Thorsen, G. and Hint, H.: Aggregation, Sedimentation and Intravascular Sludging of Erythrocytes. Acta Chir. Scandinav. Suppl. 154, 1950.

JAMES OVERTON, A.B. *and*
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The Role of Splints in the Prevention of Deformity in the Rheumatoid Hand and Wrist

Clinical problems related to the treatment of rheumatoid joints are receiving increasing attention. This paper briefly reviews the disease process, current thoughts on the pathogenesis of joint deformity and the role which splinting may play in preventing such deformity. The authors emphasize the importance of preserving joint function in any comprehensive management of rheumatoid arthritis. Mr. Overton is a senior medical student and research assistant; Doctor Wolcott is Associate Professor and Chief of the Section of Physical Medicine and Rehabilitation, University of Missouri School of Medicine.

THE THERAPEUTIC VALUE of splinting the rheumatoid hand and wrist to prevent deformity and restore functional loss is currently receiving a great deal of attention throughout the country. In order to properly appreciate the clinical problem presented by the rheumatoid hand and wrist, the disease process as it exists in and around rheumatoid joints in general will be briefly reviewed. Contemporary thinking concerning the pathogenesis of joint deformity will be presented, as well as the role which splinting may play in a comprehensive treatment program.

Pathologically, the primary lesion in rheumatoid arthritis is a synovitis which involves not only the articular surfaces of the joints but also the supporting ligamentous structures and tendons. A massively proliferative synovium rapidly moves over the articular surfaces and penetrates the tendon sheaths, interfering with normal nutrition and eventually resulting in the destruction of articular cartilage and tendon weakening. As the joint capsule expands, enclosing ligamentous structures lose their strength. Tendons are further injured by mechanical pressure and by the grinding action of reactive hypertrophic bone edges which results in frequent rupture. These factors predispose to joint instability which promotes the deforming processes.

A crucial component in the pathogenesis of arthritic deformity is the persistent malpositioning of inflamed joints.[1] The inflammatory process itself produces pain on movement. Local muscles respond with spasm to prevent motion and thereby avoid the attendant pain. The muscle fibers concerned with mobility do not function normally and become the victims of disuse atrophy. The more powerful flexor muscles tend to prevail over the elongated extensors, and the joint becomes fixed in a position of flexion. Although a position of flexion is deforming, it does allow the maximum amount of comfort. Unless this pathological process is halted or reversed there ensues fibrous tissue change leading to semipermanent contractures, which may be followed by permanent bony fusion.[2]

DISCUSSION

Ulnar deviation of the fingers at the metacarpophalangeal (MP) joint is commonplace in advanced rheumatoid arthritis and may occur shortly after the initial synovitis. Lateral stability is lost as the supporting ligaments are invaded and destroyed. As efforts are made to put the hand through its ranges of motion as a functional unit, forces associated with flexion and extension tend to force the hand in an ulnar direction. Even at rest, the hand and wrist are usually placed in a position of varying degrees of ulnar deviation (Fig. 1). The supporting hood of the extensor mechanism overlying the MP joints softens, thus allowing the displacement of the extensor tendons into the ulnar valleys. This deformity is usually most marked in the fifth phalanx, and if deformity can be prevented here, it is speculated that ulnar deviation of the remaining fingers may be blocked (Fig. 2).[3]

Muscle spasm has been mentioned as a major factor in the creation of joint deformity. This is quite evident in the intrinsic muscles of the hand. Frequently, one observes a progressive sequence of malalignment and subluxation accompanied by soft tissue fibrosis. The most com-

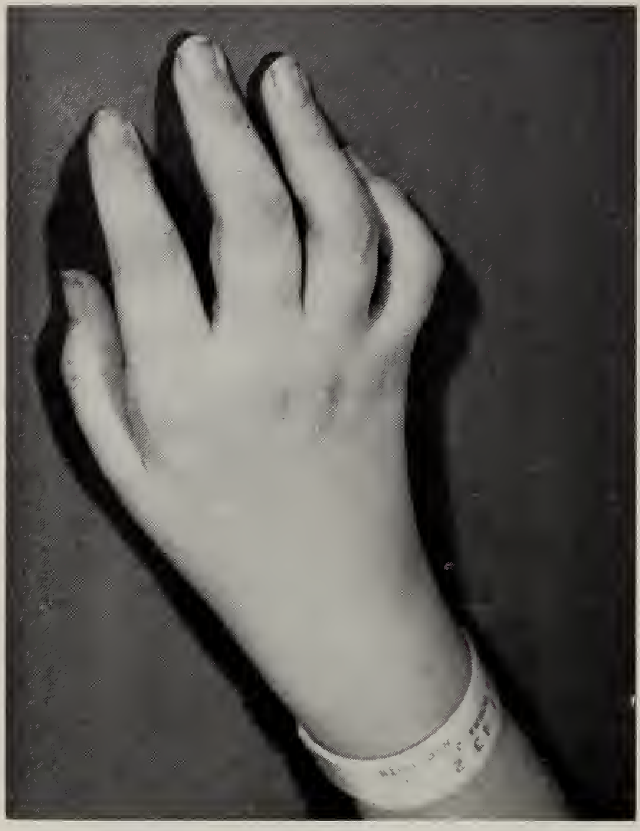

Fig. 1 Common position of hand and wrist in moderately severe rheumatoid involvement.

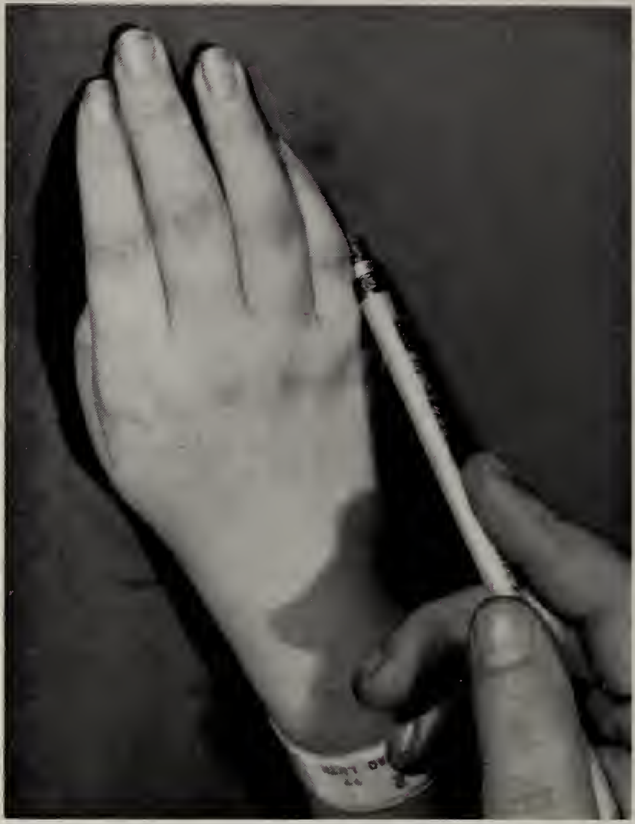

Fig. 2 Blocking of ulnar deviation of little finger with concomitant blocking of other fingers.

mon sequence begins with volar subluxation of proximal phalanges followed by extension deformities of the middle interphalangeal joints, and ends with flexion contractures of the distal interphalangeal joints, as the stronger flexors overpower the stretched and weakened extensors.

In the wrist, weakening and rupture of supporting ligaments, plus the inflammatory involvement of flexor and extensor tendons of the hand, lead to a palmar flexion deformity. The extensor tendons are stretched by flexor contraction, and as their fibers are torn and become frayed they are eventually destroyed. Swelling and stretching of the ligaments around the distal end of the ulna allows a dorsal subluxation. If the disease process is permitted to continue to maximum deformity, ankylosis occurs with the wrist in a position of palmar flexion and ulnar deviation.[4]

Mechanical factors significantly contribute to the bone and joint changes seen in rheumatoid arthritis. Powerful mechanical forces are exerted at the metacarpophalangeal joints during the normal pinching maneuver, which is one of the most common functions of the hand and one which requires the thumb to be opposed by the middle and index fingers. The metacarpophalangeal joints of these three digits are frequently the earliest to be involved in the process of bony erosion. The mechanical forces brought to bear in this function may also be in part responsible for another common deformity, dorsal displacement of the distal phalanx of the thumb.[5]

Whenever the physician makes the diagnosis of rheumatoid arthritis, he obviously must next consider how the patient is to be treated. As in most diseases, the cooperation of the patient in instituting and maintaining a therapeutic regimen is essential. Patient cooperation is, unfortunately, a poorly regulated variable in most rheumatoid arthritis studies. Generally the treatment of the rheumatoid patient should fulfill several objectives, not the least of which is an improvement in the overall health of the patient. Other objectives include the arrest of the disease process, a relief of symptoms, the improvement of damaged joint function and the prevention of deformity. If these criteria can be met successfully, residual damage resulting in functional losses will be kept at a minimum.

There is evidence to indicate that the prognosis is more favorable for preventing rheumatoid deformity in a patient treated early in the course of his disease. There are other prognostic factors, of course, to be considered. Males tend to have a better prognosis than females. There does appear to be a prognostically significant correlation with the presence or absence of the "Rheumatoid factor" as demonstrated serologically. Those patients who have a reactive serum tend to have a poorer prognosis. The age of onset, anemia, the erythrocyte sedimentation rate and a family history of rheumatoid arthritis are not considered reliable prognostic factors.[6] There is disagreement among workers as to whether or not a gradual or acute onset is prognostically significant.

It has been observed that rheumatoid patients who subsequently become hemiplegic continue to have bilateral pain and tenderness in joints afflicted by the arthritic process. Thompson and Bywaters, however, have reported four cases which indicate that the joints of hemiplegic limbs are less likely to later develop rheumatoid arthritis than joints on the non-paralyzed side in the same patient. One of the possible explanations advanced for the latter phenomenon is that the lack of movement and pressure in the hemiplegic joints produces a protective effect quite similar to that seen with therapeutic resting and splinting.[2]

For several years rest and joint immobilization have been advocated by a number of clinicians as playing a valuable role in the therapy of rheumatoid arthritis. Steroids alone have not proved effective in preventing deformity. Many authors feel that there may be a correlation between the prolonged use of steroids and a higher frequency of deformity.

To reiterate, joint deformity is for the most part a product of two major factors. The first is a destruction of articular structures which is produced by the pathologic involvement of articular tissues and faulty positioning. The second factor is muscle spasm which, according to Swanson,[7] is earlier, more readily preventable and more easily corrected than the first. Splinting thereby corrects deformity by relief of spasm and allowing the inflamed joint to remain comfortable. Essentially, the splint acts as a spasm substitute providing support but reducing wear and tear on the joint. Ropes[8] states that the "improvement gained by wearing casts does not arise from any pressure forcing the joint into extension, but rather by complete support which leads to relaxation of the spasm and resulting extension."

Although the primary concern is the role of splinting in the *prevention* of deformity, there are additional roles which splinting fulfills in regard to the rheumatoid patient.

Four basic splints can be utilized therapeutically:

1. *Rest splints* (Fig. 3). These are used primarily to relieve pain, muscle spasm and hopefully promote a local and systemic remission of disease activity. Rest splints are recommended for the *prevention* of deformity. Properly applied, the hand and wrist assume a functional position of wrist and MP extension and IP flexion. The splint must prevent ulnar deviation, MP and wrist flexion.

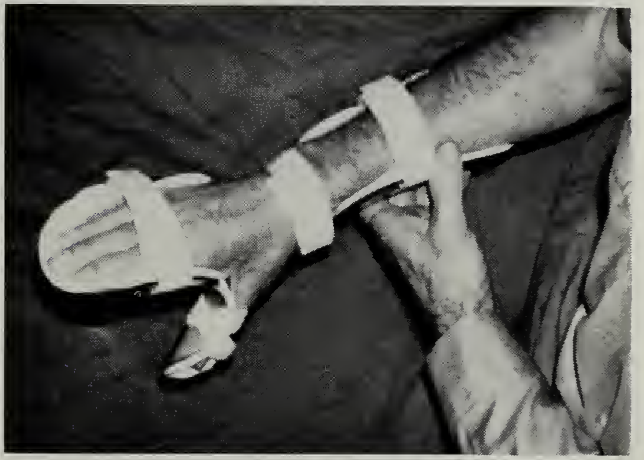

Fig. 3 Rest splint showing satisfactory alignment of segmental units of hand and wrist.

2. *Corrective splints or casts* (Fig. 4). The role of corrective splints, as the designation implies, is to reduce *existing* deformity to the point that function is once again possible. This is accomplished by serial methods with a few degrees of correction gained every three or four days.

3. *Functional static splints* (Fig. 5). Joint *sta-*

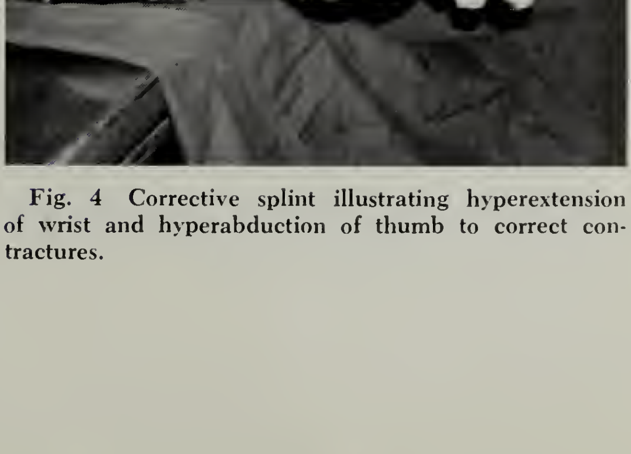

Fig. 4 Corrective splint illustrating hyperextension of wrist and hyperabduction of thumb to correct contractures.

bility is provided in order to permit an increased function of the extremity.

4. *Functional dynamic splints.* Functional dynamic braces maintain correction by stabilization of the joint, but also provide *assistance* in movement by elastic, spring or motorized units. Brower[9] recommends the use of dynamic splinting in cases of chronic deformity rather than static splinting which is of little worth. Dynamic splinting is thought to be especially rewarding when a chronic flexion deformity of the wrist is present. The dynamic splint recommended has side joints at the wrist and employs an elastic activation force to bring the joint into extension (Fig. 6). A simple hinge splint may be used to control ulnar drift as the fingers move through a full range of motion (Fig. 7).

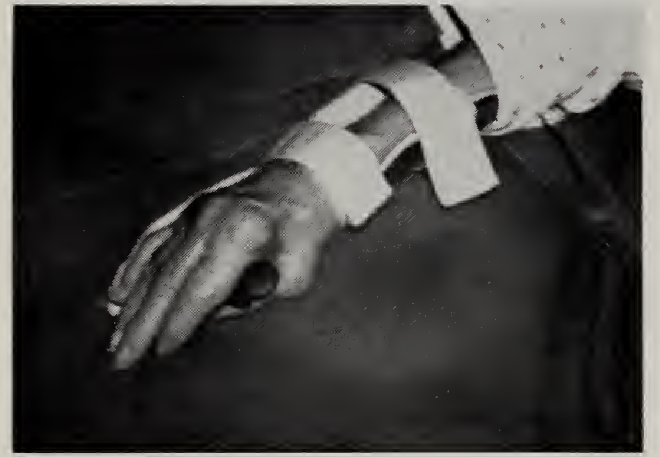

Fig. 5 Functional static splint with support preventing metacarpophalangeal joint subluxation and ulnar drift of wrist and fingers but allowing full proximal and distal interphalangeal function.

An orthotic device used for the purpose of preventing deformity in the rheumatoid hand should have these attributes:

1. Be comfortable and light in weight.
2. Be acceptable in appearance.
3. Stay in place during its use.
4. Be durable.
5. Employ holding devices that do not stretch, break, smell offensively or deteriorate in any way.

Three major indications for splinting the rheumatoid hand and wrist are generally accepted:

1. *Joint inflammation,* as evidenced by acute pain and swelling.
2. *Muscle spasm,* producing deformity in the involved joints.
3. *Subluxation* with impaired function which may be improved by better positioning.

The static splint is recommended for prevention of deformity. Swanson[7] considers tension splinting of the fingers to be contraindicted when there is joint inflammation present, since a fundamental principle of acute arthritic joint correction is the creation of joint comfort. If this is not done, muscle spasm is not relieved. Tension may increase joint pain, which correspondingly increases spasm, thus defeating the therapeutic objective. The static splint is therefore prescribed during the acute phases of rheumatoid hand and wrist involvement. Some clinicians consider static splinting only at night adequate for this purpose. Wearing static splints for long periods of time without removing them at least three times daily for range of motion exercises is to be strongly condemned. It is feared that unexercised joints may develop periarticular and intra-articular fibrous adhesions. Active exercises dur-

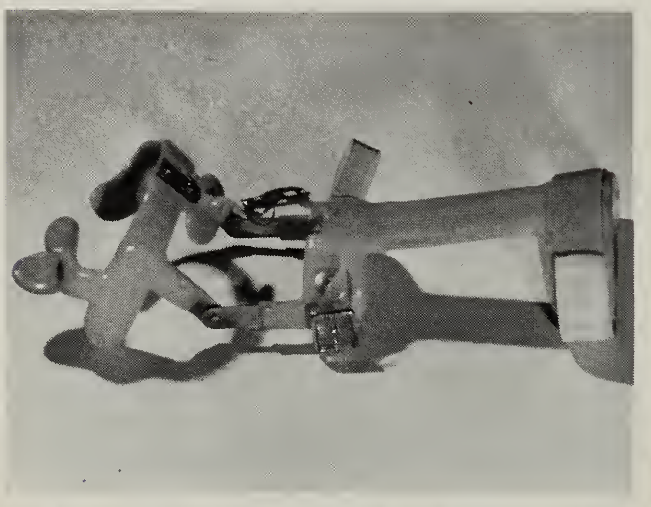

Fig. 6 Dynamic splint showing wrist extension assist, maintenance of thumb-index finger web, and side joints at the wrist to prevent ulnar deviation.

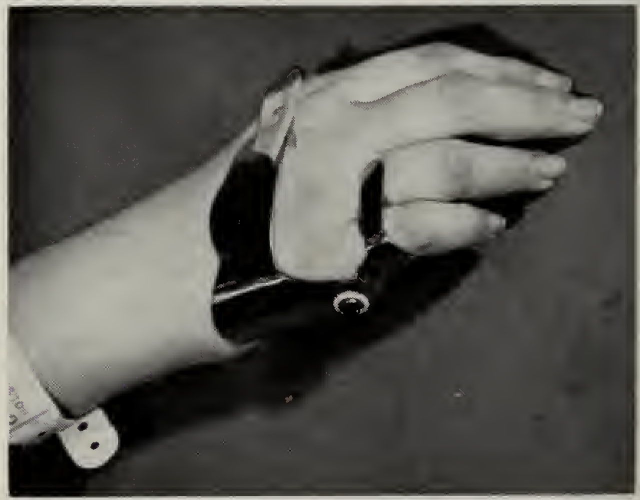

Fig. 7 Simple dynamic splint to prevent ulnar drift of metacarpophalangeal joint during daily activities.

ing the day, preferably during the application of heat or immediately thereafter, designed to maintain joint motion are recommended. In this program it is considered to be important that IP joints are flexed, the MP joints and the wrist are extended and the fingers radially deviated. It is deemed especially necessary that the index finger is exercised in radial deviation in order that the first dorsal interosseous muscle may assist in preventing ulnar drift.

On the other hand, some authors contend that it is possible to splint the rheumatoid hand and wrist for long periods of time without residual functional deficit. Patridge and Duthie[10] report a series of 34 patients placed on bed rest whose actively inflamed joints were totally immobilized for a period of four weeks. This was done to control the localized pain, muscle spasm and disease activity associated with the rheumatoid arthritis. At the end of four weeks of complete immobilization no evidence of ankylosis was found in any of these patients. Pain was well controlled, range of motion was greater than before the period of immobilization and systemic signs of disease were decreased. This phenomenon was also reported by Swanson[7] in an earlier study.

SUMMARY

Two major factors must be stressed in the pathogenesis of rheumatoid joint deformity.

1. *Persistent faulty positioning* of joint structures resulting from:
   a. *pain* which triggers *muscle spasm.*
   b. *kinesiologic stresses*—demands of function which bring the fingers and thumb into deforming positions.
2. *Mechanical faults* resulting from:
   a. a *change* in *supportive tissue.*
   b. *muscular weakness* secondary to misuse and chronic inflammatory changes in the muscle.
   c. *faulty grooving* of subchondral bone due to distorted stresses and compressions following initial destruction of articular cartilage.

If this is indeed the manner in which the joint deformity of rheumatoid arthritis evolves, it would be reasonable to direct therapy in some manner which would prevent any or all these factors from becoming manifest. If a method of completely preventing the initial inflammatory process were available at present, then the disease would cease to be a problem. Although anti-inflammatory agents may provide some degree of symptomatic relief, their lack of success is evidenced by the occurrence and progression of deformity and inflammation despite their use. Splinting represents an attempt to prevent deformity by several means:

1. By preventing persistent faulty positioning, the hand and wrist may be maintained in a position of optimum function.
2. By providing comfort, pain and muscle spasm are relieved.
3. By controlling deforming kinesiologic stresses.
4. By preventing muscular weakness secondary to disuse and misuse.
5. By preventing destructive and abnormal stresses or compressions, faulty distortions of subchondral bone are alleviated.
6. Splinting may conceivably have an anti-flammatory effect. Movement which can be irritating to injured tissue, is kept at a minimum.

In this manner, inflammatory tissue changes which weaken articular structures (ligaments, tendons, articular cartilage) and predispose to instability would be lessened.

The importance of preserving function of the hand and wrist in anticipation of spontaneous arrest of the disease process must be recognized and considered in the comprehensive management of rheumatoid arthritis. Much information is available in regard to the biomechanical, pathological and clinical rationale for the use of appropriate splinting. Two problems remain:

1. The provision of inexpensive, comfortable, readily available and biomechanically adequate splints.
2. The inclusion of appropriate splinting in the armamentarium of the clinician.

BIBLIOGRAPHY

1. Bennett, R. L.: Orthotic Services to Prevent Deformities of the Hand in Rheumatoid Arthritis. Arthritis and Rheumatism 8:1006-10, 8, October 1965.
2. Thompson, M. and Bywaters, E. G. L.: Unilateral Rheumatoid Arthritis Following Hemiplegia. Annals of Rheumatic Diseases 21:370, 1962.
3. Straub, L. R.: The Rheumatoid Hand. Clinical Orthopedics 15:127-139, Winter 1956.
4. Rotstein, J.: *Simple Splinting:* The Use of Light Splints and Related Conservative Therapy in Joint Diseases, 1965.
5. Martel, W.: The Pattern of Rheumatoid Arthritis in the Hand and Wrist. Radiologic Clinics of North America 2:221-234, August 1964.
6. Short, C. L. and Bauer, W.: The Course of Rheumatoid Arthritis in Patients Receiving Simple Medical Orthopedic Measures. The New England Journal of Medicine 238:142-148, 29, January 1948.
7. Swanson, N.: The Prevention and Correction of Deformity in Rheumatoid Arthritis. The Canadian Medical Association Journal 75:257-261, 15, August 1956.
8. Ropes, M. W.: Conservative Treatment in Rheumatoid Arthritis. Medical Clinics of North America 45:1197-1206, September 1961.
9. Brower, T. D.: Rheumatoid Arthritis of the Hand. Surgical Clinics of North America 40:541-548, April 1960.
10. Patridge, P. E. H. and Duthie, J. J. R.: Controlled Effect of Complete Immobilization of the Joints in Rheumatoid Arthritis. Annals of Rheumatic Diseases 22:91-98, 1963.

JOSEPH T. PARISI, Ph.D., ***Columbia***

Bacteriuric Escherichia Coli

It is well established that pyelonephritis generally is the result of invasion of the kidney by bacteria and one of the findings used to detect active pyelonephritis is bacteriuria, or the multiplication of bacteria within the urinary tract. Although bacteriuria may exist without being associated with pyelonephritis, it has been shown that asymptomatic bacteriuria during pregnancy does predispose to the development of pyelonephritis.[1] It is generally accepted that the urinary tract normally has a low index of bacteria and that bacteriuria is often a true pathologic finding. However, among the difficulties with utilizing bacteriuria as a criterion of infection is that of differentiating between those bacteria from a truly infected urinary tract and those bacteria from a faulty specimen. Thus, the distinction between bacteriuria and contamination of the specimen is not always clear.

At the present many laboratories use as the standard of index of bacteriuria 100,000 bacteria per milliliter of urine, whereas the number of bacteria in urine contaminated during passage through the urethra or surrounding structures rarely exceeds 10,000 per milliliter.[2, 3] There have been numerous reports[4, 5] recently, however, indicating that the presence of low bacterial counts in the urine is no assurance of freedom from renal or other urinary tract infections, and that if 100,000 bacteria per milliliter of urine is used as the standard of index of bacteriuria many cases of chronic pyelonephritis would escape detection. It would appear at this time that a standard number of bacteria alone is an insufficient index of bacteriuria and that additional criteria need to be established.

Numerous genera of bacteria have been implicated in infections of the urinary tract, but coliforms, especially *Escherichia coli*, are isolated most frequently.[6, 7] Because of the natural habitat of *E. coli* in the intestine and its occurrence in the feces, epidemiologic studies of urinary tract infections were impossible before 1947 because methods were unknown for the differentiation of strains isolated from urine and strains isolated from feces. In 1947 Kauffman[8] published a method for the identification of this organism based on the presence of three different sets of antigens (the H, O and K antigens) on the cell. Subsequently, this work has been extended by other workers.[9] The H antigens are flagellar antigens which may not always be present. The O antigens are somatic antigens associated with the cell wall. These are not single antigens but are composed of several distinct antigens and called the O group antigens. Because of the common occurrence of some of these antigens, there are cross-reactions not only between different O groups of *E. coli* but also between organisms in other genera of the enteric bacteria. The K antigens consist of a group of antigens occurring in capsules or envelopes surrounding the organism and, when present, prevent the agglutination of the O somatic antigen with homologous sera. At the present there are 145 O antigens, 86 K antigens and 49 H antigens contained in the *E. coli* schema.

The serologic identification of a strain of *E. coli* depends, therefore, upon the determination of its O, K and H antigens. This method of identification has made it possible to implicate certain serologic groups of *E. coli* in infantile diarrhea and, subsequently, has been used to study the epidemiology of urinary tract infections. The results have shown that strains from relatively few serologic groups are found in bacteriuria and cases of pyelonephritis, and that these strains are different from those responsible for infantile diarrhea.[10, 11] There also is evidence that some of these strains have enhanced virulence and are nephropathogenic in a manner analogous to the enteropathogenic strains causing infantile diarrhea.[12, 13]

Of even greater importance is the evidence of a predominant hospital flora or nosocomial strains of *E. coli* and of a high incidence of these strains in bacteriuria in patients following urinary tract instrumentation, especially catheterization.[3, 14, 15] The origin of these relatively few strains in the hospital environment and how they are maintained and transmitted are not known at this time. In some instances[3, 10] these nephropathogenic strains are found in the feces of patients as hospitalization progresses and thus they have an increased opportunity to cause extra-intestinal infection. In other instances[11, 14] the serologic strains responsible for the urinary tract infection are not found in the feces. Since there is evidence of hospital equipment serving as a vehicle for the transmission of other gram-negative organisms it is possible, but by no means established, that the nosocomial strains causing urinary tract infections are carried on the hands of hospital personnel and on fomites.[16]

The use of serological typing to differentiate important groups of pathogenic strains of *E. coli* has contributed much valuable information in the epidemiology of urinary tract infections. However, the studies which have been described have been based mainly on the identification of the O group antigens of this organism; and serologic identification is complex, difficult to perform and takes several days. Furthermore, due to the common occurrence of some of the O antigens, cross-reactions between strains in different O groups are possible and complete identification of the O, K and H antigens is not practical. Although antisera are available commercially for the identification of strains of *E. coli* causing infantile diarrhea, antisera are not available commercially for strains implicated in urinary tract infections. Thus, the routine serologic identification of strains isolated from the urinary tract is impossible at this time.

There is evidence that certain strains within an O group are more virulent than others in the same O group.[17] This suggests that although serologic typing is valuable in the identification of certain groups of *E. coli*, more precise methods must be found for the identification of specific strains within the serologic group. Recently we[18] have investigated the possibility of using bacteriophages for this purpose since epidemiologic studies of staphylococcal infections with the use of bacteriophages have proven invaluable in the control of infections caused by this organism. We have isolated some bacteriophages in our laboratory and used them to identify strains of *E. coli* isolated from urinary tract infections. The results we obtained were in agreement with those obtained by serologic typing in that strains with certain bacteriophage types caused a majority of the infections. In a comparison of strains identified by bacteriophage typing and strains identified by serologic typing, we were able to differentiate organisms by bacteriophages which could not be differentiated by serologic typing. It also appears that bacteriophage typing has other advantages over serologic typing in that bacteriophage typing is faster and easier to perform. We are planning further investigations in the use of bacteriophages in epidemiologic studies of urinary tract infections at the University of Missouri Medical Center.

Description of the use of bacteriuria in detection of infection of the urinary tract. One of the major problems has been that of differentiating strains of the coliforms, especially Escherichia coli, which have to be dealt with. The author proposes that bacteriophage typing, rather than serologic typing, may provide the solution to this problem. Doctor Parisi is an assistant professor in the Department of Microbiology, University of Missouri School of Medicine.

SUMMARY

The high incidence of infections of the urinary tract and of the use of bacteriuria as a means of detecting disease are described. The presence of *E. coli* as one of the most frequent isolates in bacteriuria necessitates a method to differentiate between strains found in the intestine and strains found in the urinary tract if epidemiologic studies of urinary tract infections are to be conducted.

Serologic differentiation has contributed much valuable information in cases of pyelonephritis, but there are many disadvantages associated with serologic typing. The use of bacteriophage typing in a recent study has indicated that it may be a more specific means of differentiating strains within a serologic group. The advantages of its use in further studies are described.

BIBLIOGRAPHY

1. Kass, E. H.: Bacteriuria and Pyelonephritis of Pregnancy. Trans. Assoc. Am. Physicians 72:257, 1959.
2. Wolfson, S. A., Kalmanson, G. M., Rubini, M. E. and Guze, L. B.: Epidemiology of Bacteriuria in a Predominantly Geriatric Male Population. Am. J. Med. Sci. 250:168, 1965.
3. Kennedy, R. P., Plorde, J. J. and Petersdorf, R. G.: Studies on the Epidemiology of *Escherichia coli*. IV. Evidence for a Nosocomial Flora. J. Clin. Invest. 44:193, 1965.
4. Ambrose, S. S. and Hill, J. H.: Colony Counts and Chronic Pyelonephritis. J. Urol. 94:15, 1965.
5. Seneca, H. and Peer, P.: Clinical Laboratory Diagnosis of Urinary Tract Infections. J. Urol. 94:78, 1965.
6. Kleeman, C. R., Hewitt, W. L. and Guze, L. B.: Pyelonephritis. Med. 39:3, 1960.
7. Stamey, T. A., Govan, D. E. and Palmer, J. M.: The Localization and Treatment of Urinary Tract Infections: The Role of Bactericidal Urine Levels as Opposed to Serum Levels. Med. 44:1, 1965.
8. Kauffmann, F.: The Serology of the Coli Group. J. Immunol. 57:71, 1947.
9. Edwards, P. R. and Ewing, W. H.: *Identification of Enterobacteriaceae*. Burgess Publ. Co., p. 63, 1962.
10. Turck, M. and Petersdorf, R. G.: The Epidemiology of Non-Enteric *Escherichia coli* Infections: Prevalence of Serologic Groups. J. Clin. Invest. 41:1760, 1962.
11. Vosti, K. L., Monto, A. S. and Rantz, L. A.: The Im-

(Continued on page 433)

ARCH W. TEMPLETON, M.D. *and*
JAMES L. LEHR, B.A., *Columbia*

Pulmonary Hyperaeration:

A Helpful Differential Sign in Infants With Congenital Heart Disease

THE DIFFERENTIATION OF CONGENITAL heart lesions in infants and young children using routine postero-anterior and lateral views of the chest is usually difficult. Roentgenograms are frequently exposed during various phases of the patient's respiratory cycle. The thymus often obscures the undivided pulmonary artery segment as well as the main right and left pulmonary arteries. The aorta is frequently indefinable due to its anterior-posterior course within the mediastinum. If the X-ray beam is not perpendicular to the chest, there is distortion of the cardiac silhouette. Restraining devices do not guarantee adequate patient position. Even with films of good technical quality an evaluation of specific cardiac chamber enlargement is often impossible.[1-3]

Pulmonary hyperaeration is a roentgenographic sign which has been found to be essentially independent of patient position and anatomic superimposition. The demonstration of this sign has proved to be of great help in differentiating high pressure from low pressure, left to right shunts in infants and young children. Pulmonary hyperaeration is determined by the position of the diaphragmatic leaves during attempted inspiration from the lateral roentgenogram of the chest. Since the value of pulmonary hyperaeration in differentiating congenital heart defects has not been previously determined, the incidence and significance of this sign are presented. Also, the physiologic mechanisms producing the roentgenographic changes are discussed.

MATERIAL AND RESULTS

Only cases with a defect proven at surgery, autopsy or cardiac catheterization were included in this study. In no instance was there clinical or roentgenographic evidence of pulmonary infection at the time the films were exposed.[4] In all patients the admission postero-anterior and lateral roentgenograms were used for evaluation. The cases were interpreted randomly without knowledge of the proven diagnosis. Hyperaeration was considered to be present when the hemidiaphragms were flattened (Fig. 2B) or distinctly depressed but not completely flattened.

There were 39 cases of secundum type of interatrial septal defect ranging in age from 18 days to 67 years. Seven patients were over the age of 60 years and 16 were under ten years of age. Four patients were less an one year of age. Forty-two cases of interventricular septal defect were evaluated with an age range of four days to a single patient 50 years of age. Twenty-nine patients were under the age of ten years, and 15 of these were less than one year old. Patent ductus arteriosus was found in 25 patients who ranged in age from one month to 30 years. Eight patients were under one year of age and 18 patients were less than ten years of age. Ten patients with a primum type of interatrial septal defect were evaluated as were 29 patients with tetralogy of Fallot.

A highly significant correlation was found between pulmonary hyperaeration and both patent ductus arteriosus[5] and interventricular septal defect[6] in the 23 patients under one year of age (Fig. 1). Fig. 1 also demonstrates the significant lack of pulmonary hyperaeration in patients with secundum interatrial septal defect. In patients under one year of age no instance of hyperaeration was observed with secundum type of interatrial septal defect, where as 93% of patients with interventricular septal defect and 86% of patients with patent ductus arteriosus has pulmonary hyperaeration. Three of the ten patients with a primum type interatrial septal defect, all under the age of seven years, demonstrated hyperaeration,[7] but the case material was too small for evaluation at this time. Four of the 29 patients with tetralogy of Fallot had pulmonary hyperaeration; three were under ten years of age. Two patients with complete transposition of the great vessels and an associated interventricular septal defect demonstrated hyperaeration.

DISCUSSION

Fig. 1 demonstrates that the roentgenographic demonstration of flattened or markedly depressed hemidiaphragms is an excellent sign for differentiating high pressure from low pressure shunts in infants and young children. The physiological mechanisms producing pulmonary hyperaeration are not entirely proven, but the following sequence of events seems most logical.

The maintenance of an adequate systemic blood pressure by the left ventricle is a fundamental physiologic body requirement. In left to right shunts a portion of the total blood volume recirculates through the pulmonary circulation rather than passing into the systemic circulation. To compensate for this loss, the cardiovascular system can maintain systemic blood pressure by increasing the heart rate (tachycardia) and/or increasing the stroke volume and/or undergoing peripheral vasoconstriction.

Tachycardia and stroke volume are functions performed by both ventricles. If a cardiac defect is at the ventricular or ductus level, a bolus of blood which has been shunted from left to right may enter the pulmonary arteries under an increased pressure as a result of the left ventricle's effort to maintain systemic blood pressure. Pulmonary congestion, resulting from the increased pressure of the shunted blood, causes a partial capillary-alveolar block. In an effort to improve oxygenation the patient breaths faster, but the pulmonary congestion has compromised lung compliance and expiration is incomplete. Also, the pulmonary congestion and associated decreased lung compliance stimulates the Hering-Breuer reflex with production of rapid shallow breathing.[8] Pulmonary hyperaeration with depressed diaphragmatic leaves is the end result (Fig. 2).

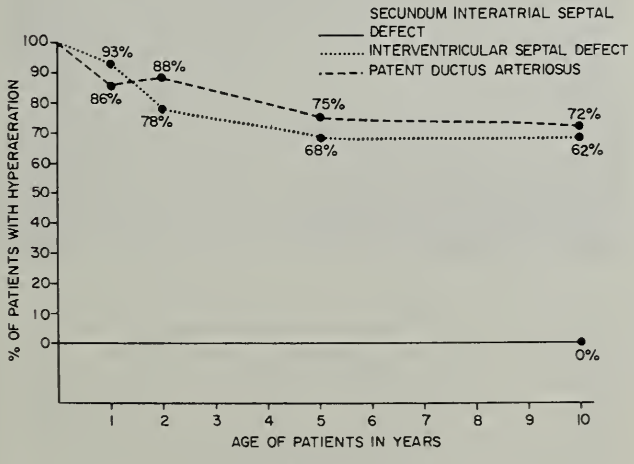

Fig. 1

A paper emphasizing the value of using pulmonary hyperaeration in the differentiation of high from low pressure cardiac shunts in children under one year of age. The authors review the shortcomings of the routine roentgenographic approach and describe the physiologic mechanisms which cause the demonstration of hyperaeration to be a more effective and reliable diagnostic sign. Doctor Templeton is associate professor of radiology and head of the Section of Diagnostic Radiology at the University of Missouri School of Medicine. Mr. Lehr is a second year medical student and research assistant. Their research was supported in part by United Health Foundations Grant #45.

In contradistinction, the atria do not possess any notable ability to contract and cannot significantly increase the pressure applied to the blood flowing through an interatrial septal defect. Therefore, the shunted blood enters the pulmonary artery under a lower pressure. Congestive changes are significantly less than in high pressure shunts, adequate oxygenation occurs without marked tachypnea and pulmonary hyperaeration does not occur (Fig. 3).

In some congenital heart defects, such as tetralogy of Fallot and severe pulmonary valve stenosis, the effect of peripheral oxygen desaturation on the carotid and aortic bodies may be an important factor for stimulating a reflex tachypnea which produces pulmonary hyperaeration.[8] But in left to right shunts, the pressure applied to the bolus of shunted blood must be the decisive mechanism in producing pulmonary congestion and hyperaeration. Thus, in low pressure interatrial shunts the hemidiaphragms are within normal limits in position and configuration; but in high pressure shunts the hemidiaphragms are flattened or markedly depressed.

Only two patients with a secundum type of interatrial septal defect demonstrated pulmonary hyperaeration. Both patients were 35 years old and had pulmonary hypertension and chronic lung disease. In some patients with high pressure shunts hyperaeration was demonstrated on roentgenograms exposed during the early months of life but disappeared when the patient reached the age of three or four years. The decreased

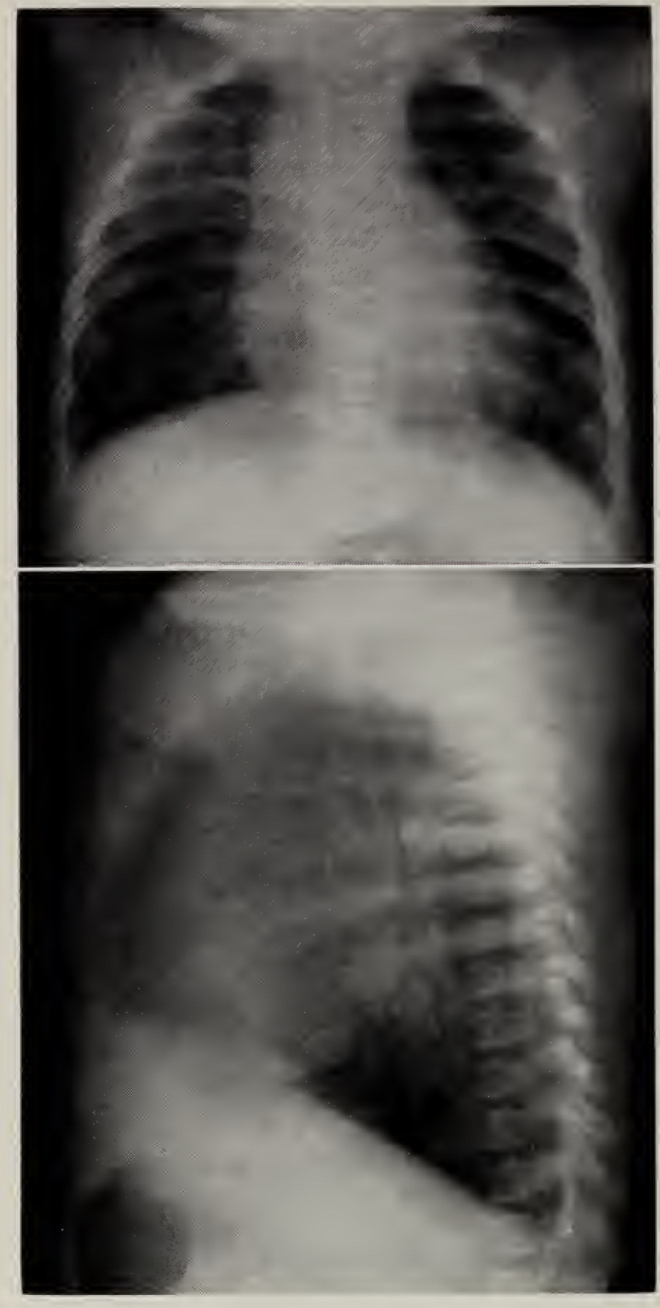

Fig. 2 Nine-week-old infant with uncomplicated interventricular septal defect. 2A (top) Antero-posterior roentgenogram demonstrating a prominent right sided thymus obscuring the right main pulmonary artery, minimal nonspecific cardiomegaly, and hypervascular lung fields. 2B (bottom) Lateral roentgenogram illustrating marked flattening of the hemidiaphragms and pulmonary hyperaeration. There is slight prominence of the right ventricle.

incidence of hyperaeration in older children is, at least in part, due to the decreased severity of their lesion when first evaluated. Also, the assumption of the upright position at 18 to 24 months of age with associated changes in pulmonary hydrostatic pressure and blood volume[9] may be a factor in the diminution of pulmonary hyperaeration. It has been observed clinically that an improvement in the condition of most infants occurs after the child reaches one year of age.[10]

A comparison of the cardiac silhouettes in Figs. 2 and 3 fails to reveal any significant diagnostic differences. But the presence of pulmonary hyperaeration with flattened hemidiaphragms as seen on the lateral roentgenogram of Fig. 2 distinguishes the patient with the high pressure shunt from the patient with a low pres-

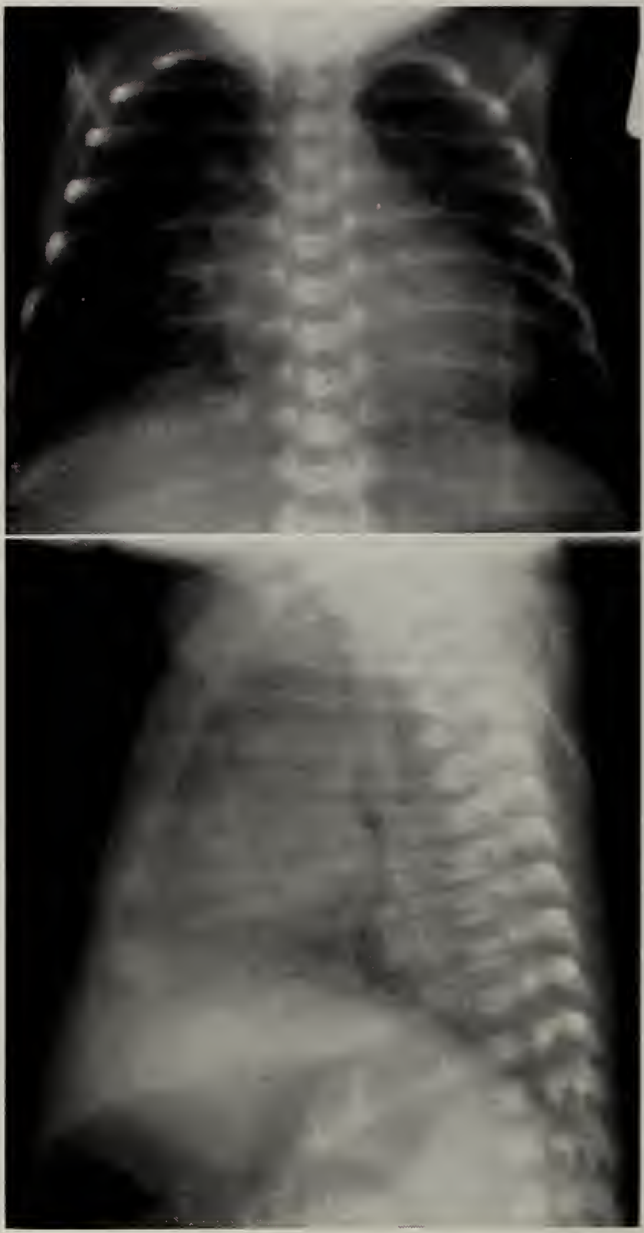

Fig. 3 Nine-day-old infant with uncomplicated secundum type of interatrial septal defect. 3A (top) Antero-posterior roentgenogram demonstrating slight pulmonary hypervascularity and questionable nonspecific cardiomegaly. 3B (bottom) Lateral roentgenogram reveals a normal configuration of the hemidiaphragms. There is no pulmonary hyperaeration.

sure shunt. The diagnostic value of pulmonary hyperaeration in other congenital heart defects, such as pulmonary valve stenosis, tetralogy of Fallot or complete transposition of the great vessels, is limited. In most of these instances other roentgenographic findings, such as decreased pulmonary vascularity, will indicate the correct diagnosis.

Conclusion

The admission postero-anterior and lateral chest roentgenograms of patients with proved, uncomplicated, congenital heart defects have been randomly evaluated for pulmonary hyperaeration. Hyperaeration was considered present when the hemidiaphragms were flattened or markedly depressed.

A highly significant correlation was found between pulmonary hyperaeration and patients under one year of age with high pressure shunts. Hyperaeration was not found in a similar group of patients with low pressure shunts. The increased pressure applied to the shunted blood by the ventricles and the resultant pulmonary congestion appears to be the main physiologic mechanism producing the observed hyperaeration.

The roentgenographic detection of pulmonary hyperaeration in infants and young children is independent of patient position and mediastinal anatomic variations and has been of great help in differentiating high pressure from low pressure shunts.

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Bibliography

1. Davis, L. A. and Vermillion, M.: The Relationship of the Cardiac Silhouette to Altered Respiratory Dynamics in Congenital Heart Disease in Infants. Radiology 73:49, July 1959.
2. Lyon, R. A. and Koplan, S.: Patent Ductus Arteriosus in Infancy. Pediatrics 13:357, April 1954.
3. Sussman, M. L. and Jacobson, G.: A Critical Evaluation of the Roentgen Criteria of Right Ventricular Enlargement. Circulation 11:391, March 1955.
4. Krabbenhoft, K. L. and Evans, W. A.: Some Pulmonary Changes Associated With Intracardiac Septal Defects in Infancy. Radiology 63:498, October 1954.
5. Garfinkel, J. M. and Kirkpatrick, J. A.: Decreased Vascularity of the Left Lung and Unequal Aeration of the Lungs as a Manifestation of Patent Ductus Arteriosus. Am. J. Roent. 89:1012, May 1963.
6. Maxwell, G. M., Rowe, G. G. and Crumpton, C. W.: A Clinical and Hemodynamic Study of Ventricular Septal Defect in Infants. Arch. Dis. Childhood 33:67, February 1958.
7. Friedman, S. and Ash, R.: Persistent Common Atrioventricular Canal: Clinical and Pathologic Observations in Twelve Infants. J. Dis. Child. 93:619, June 1957.
8. Best, C. H. and Taylor, N. B.: The Physiological Basis of Medical Practice. Seventh Edition. Baltimore: The Williams and Wilkins Co., 1961, p. 502-04.
9. Davson, H. and Eggleton, M.G.: Starling's Principles of Human Physiology. Thirteenth Edition. Philadelphia: Lea and Febiger, 1962, p. 275, 290.
10. Kjellberg, S. R., Mannheimer, E., Rudhe, U. and Jonsson, B.: Diagnosis of Congenital Heart Disease. Second Edition. Chicago: Year Book Publishers, 1959, p. 345.

Bacteriuric Escherichia Coli (Cont'd)

portance of Sample Size in Studies Based Upon the Serologic Classification of *Escherichia coli.* Proc. Soc. Exp. Biol. Med. 111:201, 1962.
12. Kimball, H., Garcia, M. and Petersdorf, R. G.: The Epidemiology of Non-Enteric *Escherichia coli* Infections. II. Relationship of Prevalence of *E. coli* in Urinary Infections to the Bactericidal Effect of Human Serum. J. Lab. Clin. Med. 63:901, 1964a.
13. Kalmanson, G. M., Hubert, E. and Guze, L. B.: Serum Bactericidal Activity in Patients With Pyelonephritis. Am. J. Med. Sci. 248:285, 1964.
14. Rantz, L. A.: Serological Grouping of *Escherichia coli.* Arch. Int. Med. 109:37, 1962.
15. Martin, C. M. and Bookrajian, E. N.: Bacteriuria Prevention After Indwelling Urinary Catheterization. Arch. Int. Med. 110:703, 1962.
16. McLeod, J. W.: The Hospital Urine Bottle and Bedpan as Reservoirs of Infection by *Pseudomonas pyocyanea.* Lancet 1:394, 1958.
17. Kimball, H., Garcia, M. and Petersdorf, R. G.: The Epidemiology of Non-Enteric *Escherichia coli* Infections. III. Relationship of *E. coli* Antigens to Experimental Pyelonephritis. J. Lab. Clin. Med. 63:907, 1964b.
18. Brown, W. J. and Parisi, J. T.: Bacteriophage Typing of Bacteriuric *Escherichia coli.* Proc. Soc. Exp. Biol. Med., 121:259, 1966.

The development of the first effective experimental vaccine against rubella by two scientists of the Public Health Service's National Institutes of Health has been announced. The announcement followed a joint report by the developers of the vaccine, Dr. Harry M. Meyer, Jr., and Dr. Paul D. Parkman, both of the Division of Biologics Standards, to their scientific colleagues at the recent Atlantic City meeting of the American Pediatrics Society. Surgeon General William H. Stewart, in commenting on the discovery, said: "The clinical data obtained to date are very encouraging. The results with this newly developed experimental vaccine make it possible to predict that rubella and its associated birth defects can be brought under control in the not too distant future."

Pro-Banthīne

(propantheline bromide)

Intragastric photography has provided a new and precise method of measuring the effectiveness of anticholinergic drugs. The transition from gastric motor activity to relaxation seen with effective doses of such drugs takes only a few seconds and is easily demonstrated.

The importance of vagal stimulation of gastric hyperacidity and hypermotility makes such measurements particularly important in evaluating the parasympatholytic effect of drugs used in patients with peptic ulcer, gastritis, biliary dyskinesia and other gastrointestinal disorders.

Pro-Banthīne has been shown[1] to produce complete gastric motor inactivity with doses of 6 to 8 mg. intravenously. Comparison tests were made with the belladonna fraction, atropine. Measured usual dosage unit versus usual dosage unit, Pro-Banthīne was more than four times as effective as the belladonna alkaloid.

Indications: Peptic ulcer, functional hypermotility, irritable colon, pylorospasm and biliary dyskinesia.

Oral Dosage: Adequate dosage should be given for optimal results. For most *adult* patients this will be four to six 15-mg. tablets daily in divided doses. In severe conditions as many as two tablets four to six times daily may be required. Pro-Banthīne (brand of propantheline bromide) is supplied as tablets of 15 mg., as prolonged-acting tablets of 30 mg. and, for parenteral use, as serum-type ampuls of 30 mg.

Side Effects and Contraindications: Urinary hesitancy, xerostomia, mydriasis and, theoretically, a curare-like action may occur. Pro-Banthīne is contraindicated in patients with glaucoma, severe cardiac disease and prostatic hypertrophy.

1. Barowsky, H.; Greene, L., and Paulo, D.: Cinegastroscopic Observations on the Effect of Anticholinergic and Related Drugs on Gastric and Pyloric Motor Activity, Amer. J. Dig. Dis. *10*:506-513 (June) 1965.

See for

Is Effective

Complete gastric relaxation with Pro-Banthīne. As this intragastric photograph demonstrates, gastric relaxation is attained with 6 mg. of Pro-Banthīne intravenously; the antrum is relaxed and the pyloric orifice remains open. Full intravenous doses of atropine (4 mg.) produce no measurable effect.

SEARLE

Research in the Service of Medicine

GEORGE C. WEE, M.D., MARDONIO J. YAP, M.D. *and*
LAWRENCE W. O'NEAL, M.D., *St. Louis*

Surgical Glove Powder, Still a Surgical Hazard

Case Report

A brief history of the use of surgical glove powder and a reminder of the ever-present danger of postoperative complications of powder granulomata. The authors present a patient having talc granulomata of the greater omentum which simulated an intra-abdominal tumor. They also suggest a series of preoperative procedures which will minimize the possibility of this particular complication. Doctor Wee is Chief Surgeon, Doctor O'Neal Consulting Surgeon and Doctor Yap is a Staff Physician at Jefferson Barracks Veterans Administration Hospital.

In the modern operating theater the importance of aseptic technique is constantly stressed and enforced, but the hazards of powdering the hands of surgeons and using powder on surgical gloves before sterilization are not fully appreciated. Drains and rubber tubings are similarly dusted with powder before autoclaving.

The most frequent post-operative complications of powder granulomata are: persistent draining sinuses, fistulae, intestinal obstruction, peritonitis, single or multiple masses in the wound and intra-abdominal masses simulating tuberculous or neoplastic diseases.

These granulomatous nodules are similar to tubercles, but the Ziehl-Neelsen stain is negative for tubercle bacilli, and the offending powder is present in each tubercle-like structure. In order to incriminate the powder as the causative factor in a given lesion, it must be found within the giant cells. During the early 1920's lycopodium powder and later a mixture of lycopodium and talcum powder were used. Today starch powder is most frequently the offending agent.

Case Report

The patient was a 53-year-old veteran who had had a subtotal gastrectomy at another Veterans Administration Hospital for duodenal ulcer disease in 1957. About ten weeks prior to admission, he noted tenderness over the left upper abdomen. A tender, hard and fixed mass about the size of a fist was palpated in his left upper quadrant. Laboratory data and X-rays of the upper gastrointestinal tract, small bowel series, barium enema and intravenous pyelography were within normal limits. Because of the increasing pain, exploratory laparotomy was performed.

Upon exploration a hard fatty mass (Fig. 1), measuring 6.5 x 6.5 x 3 cm., was found in the right greater omentum. No pancreatic mass was found. The gastro-jejunal anastomosis was intact and no perforation was present. The spleen was normal. No other abnormality was found. The entire greater omentum was removed and the abdomen closed. Microscopic examination of the omental mass showed typical foreign body granulomata (Fig. 2). Under polarized light birefringent particles were seen (Fig. 3). Postoperatively, wound healing was delayed for several months by several draining sinuses. These sinuses were excised and were found to extend to the fascia. Microscopic examination revealed foreign body granulomata with birefringent particles. The wound finally healed.

Discussion

In 1933 Antopol[1] first reported lycopodium granuloma as a post-operative complication. He first called attention to the hazard of using lycopodium powder in the operating rooms of hospitals in preparation of gloves and other rubber products used as drains and tubes. He concluded that spores of lycopodium introduced into operative wounds would cause lesions in man simulating tuberculous or neoplastic diseases. Many cases presented as persistent draining sinuses, masses or tubercle-like lesions. They varied in size from tiny nodules to a mass of 10 cm. in diameter. He reported six cases in which microscopic examination of the surgical specimens revealed the common etiologic factor to be spores of lycopodium.

In 1935 Erb[2] reported that in many hospital operating rooms it had become the custom to use a dusting powder for gloves composed of mixture of lycopodium spores and talcum powder. Talc is magnesium silicate which is a rather inert material.

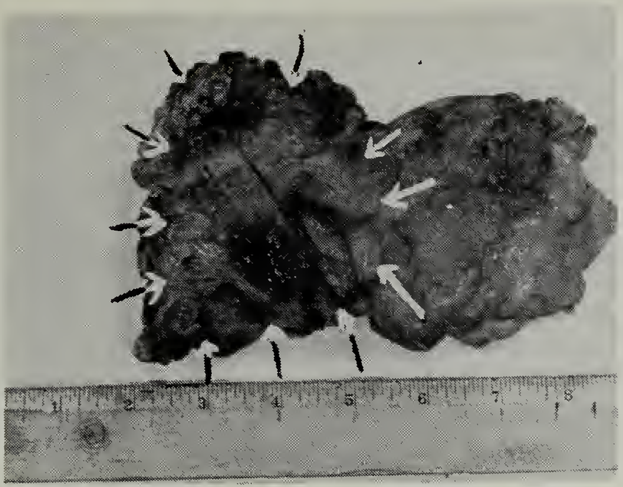

Fig. 1 Gross specimen showing a fatty and hard tumor, measuring 6.5 x 6.5 x 3 cm., on the right side of the greater omentum as indicated by the arrows.

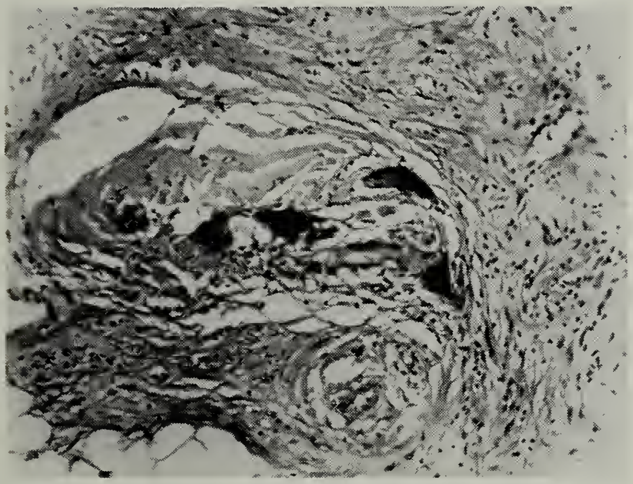

Fig. 2 Microscopic section showing scattered granulomata consisting of epithelioid proliferation, mononuclear infiltration, fibrosis and foreign body giant cells sometimes surrounding amorphous eosinophilic masses. This inflammatory reaction is seen around talc crystals which are surrounded and engulfed by the giant cells.

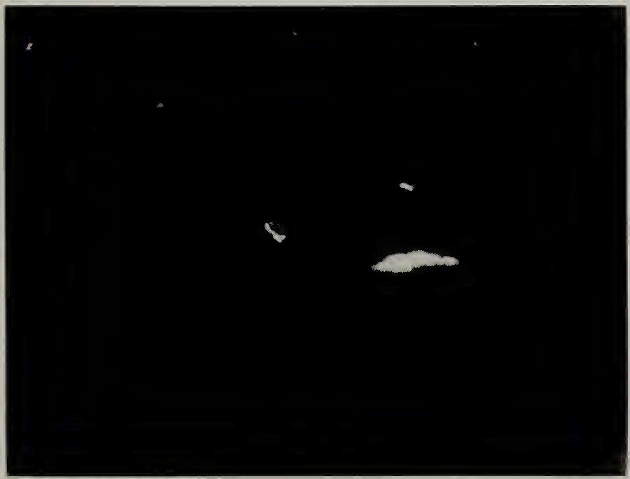

Fig. 3 Examination of foreign body granulomata by polarized light shows the presence of birefringent particles. The latter most likely appear to be talc crystals.

Between 1933 and 1943 talcum powder alone was used extensively. Several cases of complications due to talc granulomata were reported. It took the publications of Seelig and his coworkers[3, 4] to alert surgeons to the irritating and dangerous properties of talc. Eiseman, Seelig and Womack[5] reported 37 cases of serious complications due to talc. Two terminated fatally. The two deaths due directly to intra-abdominal implantation of talc were reported in 1948. These have led to the search for a satisfactory substitute for talc.

Starch powder, the latest surgical glove lubricant, was first suggested by Lee and Lehman[6] in 1947. Aldrich, Lee and Lehman[7] in 1949 gave biological proof that the powder used in their previous experiments was identical with that commercially produced under the trade name "Bio-Sorb." It had excellent physicial qualities and was relatively innocuous. McRae, et al.[8] studied and described "Bio-Sorb" as a biologically absorbable powder prepared from corn starch by etherification with epichlorhydrin. The starch polymer chains are presumably cross-linked by I:3 di-ether glycerin groups to the extent of not more than 2% of the original starch weight. The starch derivative is mixed with magnesium oxide 2% and contains small residual amounts of sodium sulphate and sodium chloride. "Bio-Sorb" was first introduced to the surgical profession in April 1949.

In 1955 Sneierson and Woo[9] reported two cases of starch powder granuloma. In order to differentiate between starch powder and talc granuloma the section can be stained with Gram's iodine. Under the microscope the starch granules in the giant cells take a bluish color, whereas the talcum particles fail to take any stain. Under polarized light the starch granules resemble a typical Maltese cross (Fig. 4).

McAdams[10] in 1956 reported three cases of starch powder granuloma occurring after operation and states that starch granules are identified daily on surgical specimens sent to the pathology laboratory. He concluded that a minute quantity of starch was sufficient to produce severe reaction leading to serious diagnostic problems and a long period of disability. He recommended the examination of multiple biopsy specimens with polarized light and alertness to the fact that starch may produce such lesions. In the future any questionable reaction observed during re-exploration should be investigated in that manner.

Paine and Smith[11] in 1957 published three

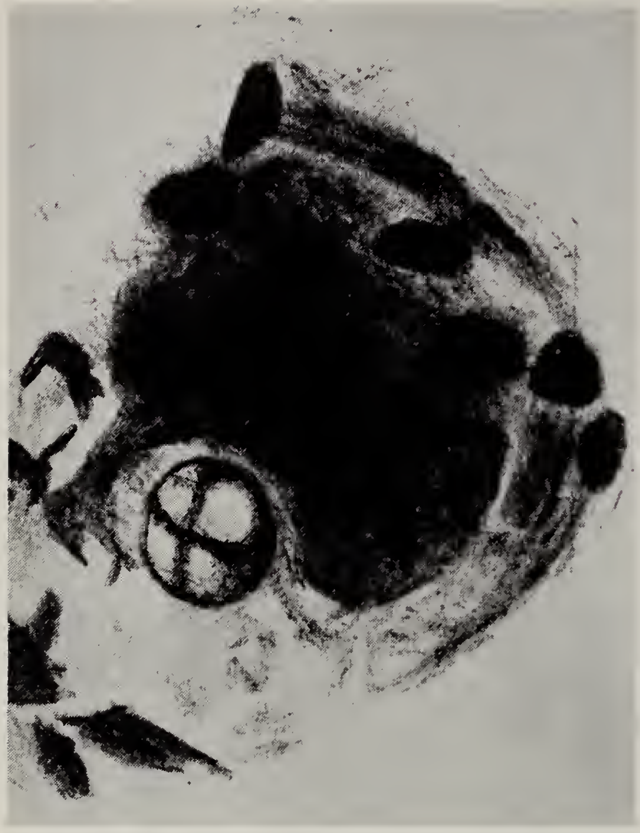

Fig. 4 Artist's sketch showing a foreign body giant cell containing a starch granule with the diagnostic doubly refractive Maltese cross as viewed with polarized light.

cases of intra-peritoneal starch granulomata in gynecological patients who had not been subjected to any laparotomy. They suggested that the starch powder had been introduced on gloves used in previous vaginal examinations and had traversed the genital tract to enter the coelomic cavity.

In 1959 Hyden and McClellan[12] reported a single case of granulomatosis of the cecum seen at operation 45 to 61 days after the primary procedure of laparotomy for peptic ulcer disease. Between these interventions a barium enema examination had suggested the diagnosis of carcinoma of the cecum. Histological examination of the resected specimen excluded malignancy but showed starch granulomata.

In 1960 Myers, Deaver and Brown[13] reported three cases of granulomatous peritonitis due to starch powder. These presented with pain, distention, fever and ascites 23 to 25 days after the primary procedures. At re-exploration there was clinical and histological confirmation of the diagnosis.

Ising[14] in 1960 reported seven classical cases after surgical interventions: four from ear, nose and throat work; one each from the breast, leg and vas deferens. In one instance, after mastectomy for carcinoma, a palpable mass presented in the scar five months after operation. This mass proved to be a starch granuloma.

McNaught[15] in 1964 reiterated the present day hazard of intra-peritoneal granulomata arising after abdominal surgery carried out according to the precepts of modern surgical practice. He reiterated that starch powder is not an entirely innocent surgical material. The body response to starch powder, if unrecognized, may give rise to errors in diagnosis and prognosis and to unnecessary secondary operations.

SUMMARY AND CONCLUSIONS

A case of talc granulomata of the greater omentum simulating an intra-abdominal tumor is presented. The history of the use of the surgical glove powder is briefly described. Scrupulous preoperative lavage of gloves of the surgeons and assistants with saline or sterile water should be mandatory. Other latex articles such as Penrose drains, tubes, etc. should be similarly treated before use. Scrub nurses should rinse their gloves before handling sponges and instruments. Basins and water or saline used for this purpose should be discarded promptly in order to avoid transfer of starch powder to the wound. Attempts should be made to avoid excessive powder on the gloves before sterilization. Gloves should be inspected for holes before placing them on autoclave. If gloves are punctured or torn during surgery they should be immediately changed. Starch cream should be used when changing gloves to avoid fall-out on the wound or instruments.

It is urged that surgeons should be watchful for this complication. A pathologist's report of any surgical specimen showing granulomatous reaction should be subjected to the starch test and polarized light examination to determine the part played by the surgical glove powder.

An expensive instrument is not necessary. All that is needed is a crossed Nicol prism, or a strip of polaroid material between the slide (on eyepiece) and the eye and another such polarizing strip between the light source and the slide so as to darken all but birefringent particles of foreign body.

There is still a place for further pharmacological and commercial effort directed to development of a more satisfactory lubricant or production of a glove which does not require powder lubrication during autoclaving.

Acknowledgement: We wish to thank Dr. Herman Blumenthal for the histological sections, and Terry Owen and Marie Purkey for the photographs.

Bibliography

1. Antopol, W.: Lycopodium Granuloma. Arch. Path. 16:326, 1933.
2. Erb, I. H.: Lycopodium Granuloma. Surg., Gynec. & Obs. 60:40-44, 1935.
3. Seelig, M. G. and Verda, D. J.: Talcum Powder Problem. J. Mt. Sinai Hosp. 12:655, 1945.
4. Seelig, M. G.: The Talcum Powder Evil. Amer. J. Surg. 76:272, 1948.
5. Eiseman, B., Seelig, M. G. and Womack, N. A.: Talcum Granuloma: A Frequent and Serious Complication. Ann. Surg. 126:820, 1947.
6. Lee, C. M. and Lehman, E. P.: Experiment on Non-irritating Glove Powder. Surg., Gynec. & Obs. 84:689, 1947.
7. Aldrich, E. M., Lee, C. H. and Lehman, E. P.: Further Experiment With Non-irritating Glove Powder. Surgery 25:20, 1949.
8. McRae, J. T., Williams, R. W., Deaton, W. R. and Cornatzer, W. E.: Absorbable Starch Glove Powder. Amer. J. Surg. 78:510, 1949.
9. Sneierson, H. and Woo, Z. P.: Starch Granuloma. Ann. Surg. 142:1045, 1955.
10. McAdams, G. B.: Granulomata Caused by Absorbable Starch Glove Powder. Surgery 39:329, 1956.
11. Paine, C. G. and Smith, P.: Starch Granulomata. J. Clin. Path. 10:51, 1957.
12. Hyden, W. H. and McCleelan, J. T.: Glove Powder Granuloma in the Peritoneal Cavity. J.A.M.A. 170:1408.
13. Myers, R. N., Deaver, J. M. and Brown, C. E.: Granulomatous Peritonitis Due to Starch Glove Powder. Ann. Surg. 151:106, 1960.
14. Ising, U.: Foreign Body Granuloma Resulting From the Use of Starch Glove Powder at Surgery. Acta Chir. Scand. 120:95, 1960.
15. McNaught, G. H. D.: Starch Granuloma—A Present-day Surgical Hazard. Brit. J. Surg. 51:845, 1964.

Private industry and government have announced a cooperative plan to make scientific journal information on drugs more readily available to the scientific community. Under the arrangement between the Pharmaceutical Manufacturers Association (PMA) and the National Library of Medicine (NLM), PMA will hire and finance four interns in NLM's medical literature indexing and retrieval techniques. PMA President C. Joseph Stetler said that each trainee will spend part time at NLM and part at PMA learning the principles of the jobs. The two organizations will exchange advice and information concerning publishing drug reports and later will share this information with others in the drug field through a PMA Service Center.

Announcing the agreement with Stetler was Dr. Martin M. Cummings, NLM director. They said the agreement will become effective by July 1, and will run for two years, but that it is intended that the program will extend beyond that period to provide a continuing scientific literature service with special application to pharmaceutical research.

This is the second recent PMA cooperative project with a government agency. Last April 18, PMA in cooperation with the Food and Drug Administration and American Medical Association announced formation of a Registry of Tissue Reaction to Drugs at the Armed Forces Institute of Pathology, for studies of autopsy or biopsy tissue specimens from suspected adverse drug reaction cases.

GORDON C. SAUER, M.D., ***Kansas City***

Bacterial and Viral Infections in Patients With Atopic Eczema

Patients with atopic eczema itch and scratch. The terms "itchish" patient or "psychoitchical" individual have been coined to accentuate the known fact that patients with atopic eczema have an exaggerated itch-scratch reaction. This exaggeration partially explains why the atopic individual's skin can react violently with severe itching following exposure to such commonplace agents as wool clothes, ordinary bathing, low humidity in heated homes and stressful situations.

The act of scratching, whether by fingernails, use of a towel, a brush or a comb, or by rubbing one's back on a doorjam, literally and physically opens up the skin to secondary infections. It is extremely difficult for bacteria or viruses to penetrate the unbroken or uninjured epidermis. But when itching is severe enough, as it is in most cases of atopic eczema, to cause scratching deep enough to cause oozing and bleeding of the skin, the barrier has been removed for the entrance of secondary infection. What is most surprising is that there are so few cases of visible clinical secondary infection of scratched excoriated skin. Obviously, even in a single scratch where the skin has oozed one could culture some bacteria, but usually gross infection is not visible. What is the explanation for this apparent resistance of injured skin to frank infection? Immunity may be the answer—an acquired resistance to infections as a result of chronic exposure.

The purpose of this paper, however, is to discuss the types of gross secondary infection seen in patients with atopic eczema. Considering the relatively high incidence of atopic eczema as seen in any dermatologist's practice, gross secondary infection is relatively uncommon.

Two types of secondary infection can occur in eczema—bacterial and viral.

There are three types of bacterial infection, namely, secondary bacterial infection, per se, infectious eczematoid dermatitis and furunculosis.

Secondary Bacterial Infection

The most common type of infection that can develop following the scratching of a case of atopic eczema is a secondary bacterial infection. The clinical appearance of a case of atopic eczema with secondary bacterial infection is different from a case of uncomplicated atopic eczema. Clinically, one sees crusting and oozing of the skin or even pure pustular lesions. The crusting may be of the honey-colored variety as seen in cases of impetigo. Severely excoriated lesions of atopic eczema are the ones most susceptible to the pathogenic streptococceae and staphylococceae. It is extremely important to recognize the presence of secondary bacterial infection, or the treatment of the atopic eczema will not be satisfactory.

The question always arises, particularly in teaching institutions, whether it is necessary or helpful to culture the purulent material and determine the causative agent and bacterial sensitivities. It is my opinion that bacterial cultures and sensitivity studies are rarely indicated in cases of secondary bacterial infection such as we are considering here. My primary reason for stating this is that the infection responds so rapidly to local therapy. In addition, there is rarely any need for oral anti-bacterial agents.

There have been reports in the medical literature stating that impetigo responded better to oral anti-bacterial material agents than to local anti-bacterial agents. All I can state is that I cannot recall having treated a case of impetigo with an oral agent, and I am not aware of a failure in the therapy of impetigo from the use

A review of the several bacterial and viral infections which may complicate treatment of cases of atopic eczema. The author outlines the clinical manifestations of five possible infections (three bacterial and two viral) and proposes treatment which he has found effective in dealing with each one. Doctor Sauer is head of the Section of Dermatology at the University of Kansas School of Medicine and consultant in dermatology at the University of Missouri School of Medicine.

of proper local agents. Some cases of secondary bacterial infection of atopic eczema can be quite severe; and if these is any evidence of cellulitis, elevated temperature or septicemia, then oral anti-bacterial agents definitely are indicated. These latter cases, however, are extremely rare.

Therapy of atopic eczema with secondary bacterial infection is not too difficult if the problem is recognized. Wet dressings are usually indicated, using one tablespoon of boric acid to a quart of water, one Domeboro tablet to a quart of water or two tablespoons of vinegar to a quart of water. Wet dressings should be applied to the affected area and left on for 20 minutes, three times a day. The solution can be lukewarm.

After a wet dressing is removed the infected area should be treated with the following salve:

Hydrocortisone powder ½ to 1%.
An antibiotic ointment such as Neosporin or Neo-Polycin q.s. 15.0.
Sig: Apply locally three times a day.

An antibiotic ointment can be used by itself, but its effectiveness is enhanced considerably when the anti-inflammatory agent, hydrocortisone, is added to the preparation. In some mild cases a tar can be added to the preparation in a mild concentration, because this begins the therapy of the eczema.

Anti-itching pills, such as Periactin 4 mg three times a day or Benadryl 25 mg four times a day, are useful to alleviate the itching and resulting scratching.

Oral antibiotics, as stated above, are usually not indicated but if there is some evidence of systemic infection they must be used.

For very severe cases healing may be facilitated by the use of oral corticosteroids. There are also some who believe that oral antibiotics should be used concurrently with oral corticosteroids in cases of secondary bacterial infection. My experience indicates that this is not usually necessary. A corticosteroid, such as Kenacort 4 mg four times a day for three days then twice a day for a week or so, is quite effective.

After the secondary bacterial infection has improved then the therapy can be directed more to the treatment of the atopic eczema.

INFECTIOUS ECZEMATOID DERMATITIS

This special type of secondary bacterial infection does not occur too commonly in patients with atopic eczema. The term infectious eczematoid dermatitis, unfortunately, is used more often incorrectly than correctly. To be accurate, the term should be applied only to those cases of an eczematous type of secondary bacterial infection that develops around an existing infected primary site such as a draining ear, a draining breast, an ulcer or a boil. Widespread eczematous lesions can develop at a distant site from the primary infection, possibly due to autoinoculation. The exact mechanism of this eczematous spread is not known. Thus, if we were to apply this correct definition to cases of atopic eczema with a secondary bacterial infection of this type, it would presuppose that there was a rather localized area of eczema, such as an oozing ear or a case of hand eczema, acting as the primary source and the infectious eczematoid dermatitis spreading from this source.

The causative agent appears to be coagulase positive staphylococci more frequently than streptococci.

The treatment of a case of infectious eczematoid dermatitis would consist of the following:

One, elimination of the primary source of infection by treating the atopic eczema in the ear, infected hand, or wherever.

Two, use of wet dressings as indicated above.

Three, use of local therapy as in cases of secondary bacterial infection *per se.*

FURUNCULOSIS

Secondary bacterial infection in the form of furunculosis or multiple boils is rather unusual for atopic eczema. However it can occur. It can occur also as a result of local therapy with tar preparations. It is not unusual for some individuals to develop a case of folliculitis following the use of tars locally on the skin, especially in intertriginous and hairy areas. This seems to be an individual reaction since all patients do not develop a folliculitis from tar therapy. In some cases the folliculitis can become so severe that tars must be discontinued from the therapy.

Treatment of a case of folliculitis complicating atopic eczema again does not need oral antibiotic therapy in the majority of cases. However, some of these boils can be rather deep and in these cases oral antibiotics should be indicated. Culture and sensitivity studies would be helpful to determine the correct antibiotic for the bacteria.

Further treatment in the case of multiple boils should consist of the use of Dial or Phisohex soap. This use of soap may aggravate the atopic eczema, but it should be employed for a period of time to eliminate the folliculitis. Further, an acne-type diet with elimination of such foods as chocolate, nuts, cheeses, coke and excess milk products should be suggested. The injection of increasing doses of staphylococcus toxoid vaccine is occasionally beneficial. Some recurrent cases of boils can be handled best by using a sulfa such as Madribon in place of an oral antibiotic.

Viral Infections

Viral infections as a complication of atopic eczema are much more unusual than bacterial infections. There are two types of viral infections: Kaposi's varicelliform eruption, due to either the virus of herpes simplex or the virus of vaccinia; and molluscum contagiosum.

Kaposi's varicelliform eruption is a rather severe and sometimes fatal dermatitis seen most commonly in infants but occasionally in adults. It is due to the accidental inoculation of the herpes simplex virus or the vaccinia virus into the excoriated skin of the atopic. The source of the virus can be from a fever blister in the patient himself or in one of the family or other contactants, or in the case of the vaccinia virus from vaccination of an atopic individual or accidental inoculation from the vaccination of a relative or other contactant.

Clinically, the picture is of a rather generalized eruption of crateriform chickenpox-like or smallpox-like blisters and papules. Since these cases usually happen in infants with atopic eczema the prognosis is rather grave. Extensive generalized cases have toxic systemic manifestations, typical of any severe viral infection.

Treatment of such conditions begins with prevention. It is a well-known axiom, or at least it should be a well-known axoim, that no child with atopic eczema should be vaccinated during an active phase of the disease. There is even some question whether an atopic should ever be vaccinated. In the case of the herpes simplex virus, prevention is not as easy since there are many exposures to herpes simplex virus in the general population.

Active treatment, usually in the hospital, consists primarily in the use of gamma globulin intramuscular injections as rapidly as possible after the diagnosis is established. The dose of gamma globulin does not need to be high and I have treated children and adults with as low as 2 cc of gamma globulin intramuscularly daily for three or four days with excellent results.

Oral antibiotics are usually indicated to combat any secondary bacterial infection. Good nursing care is required in order to assure fresh and clean bedding. Locally, a calamine-type lotion is probably as effective as any other preparation. Finally, is must be stated that oral corticosteroids are contra-indicated in cases of Kaposi's varicelliform eruption because of the possibility of developing central nervous system viral infection. However, there have been some extremely severe cases where corticosteroids appear to have been life saving when nothing else appeared to be effective.

Molluscum contagiosum is a characteristic viral infection caused by one of the larger viruses. The clinical lesion is a shiny wax-like papule, either single or multiple, on any area of the body. The papule has a characteristic central crater from which can be expressed material similar to the material coming out of a large blackhead. This material contains the virus. Not uncommonly the papules become scratched and secondarily infected so that the charactertistic of the papule may be lost.

I have seen several cases of this complication of atopic eczema where the molluscum contagiosum papules are present around the excoriated eczema. Treatment is not difficult once the diagnosis has been made. It consists of the removal of individual papules by any of several methods.

The simplest method of removal is to curette the papule and stop the resulting bleeding with a few minutes pressure using gauze. Another method in older children is to desiccate lightly each individual papule with the electrocautery instrument. Another method is to twist an applicator containing an acid such as trichloroacetic acid into the crater.

It has been my experience that the simplest and fastest method of removal, particularly in young children where time is of essence, is the curetting of the lesions. It is important to instruct the parents to bring the children back for removal of further lesions which might develop at a later date.

President's Message

One hundred and sixteen years ago the Missouri State Medical Association was founded and a physician from Boonville was elected as its first President. Now . . . 116 years later . . . the State Medical Association has decided to take a step which may be as significant as its founding was. By coincidence, another physician from Boonville is serving as President.

The significant step which I refer to is the decision to move the MSMA Executive Office from St. Louis to Jefferson City. In 1850 there undoubtedly was opposition and skepticism to the idea of physicians uniting for collective action through an association. In 1966 there certainly was opposition and skepticism regarding the proposal to move the Office. But a special committee made an exhaustive study of the question and came to the unanimous conclusion that the nerve center of organized medicine in Missouri should be near the agencies of state government.

In years gone by (when life was considerably less complicated!) it was possible for one knowledgeable man working with the state legislature every two years to keep track of most of the governmental aspects of medicine and health. Today, however, with the multiplicity of government medical and health programs and the continuing proliferation of government agencies dealing with those programs, the task of keeping informed has become a full-time-year-round job. Indeed, contact with the legislature has become just one phase of what should be an overall government relations program. The committee probably heard other arguments favoring the move to Jefferson City, but apparently the point relating to governmental contact and liaison was the most convincing.

Moving the Executive Office *will not be a panacea.* We will still have problems, trials and tribulations. Hopefully, however, we will be in a position to better watch, advise and influence the many programs which are going to affect the welfare of our patients and the standards of our profession in the years to come.

Byron M. Stuart, M.D.

EDITORIALS

SOME THOUGHTS ON 'IMAGE'

Through the years it has never been all cakes and ale for minority groups and their image. Whether they like it or not, whether it's justice, any member of the minority has always had to bear a portion of the blame for a sin of omission or commission attributed to another member of the same group. A little of the stain seems to besmirch even the innocent.

Although we are many in number, nationally we in the medical profession are, nevertheless, outnumbered by many another occupational group and, as such, could be categorized as a "minority" group.

Study commissions have been set up to find new methods of enhancing our public image. It's possible that these minds will chart new paths of understanding between physicians and others. But while these routes are being mapped, there is much each of us can do without sitting at a conference table.

Case in point: the doctor who makes hospital rounds by poking a smiling face briefly into the patient's room and asks: "How's it going today, Joe? Good, that's fine. Keep up the good work. See you tomorrow." Then he adds another $7.00 to Joe's bill. That goes over with Joe and his family like the proverbial balloon of lead, because they don't understand that the charge represents many other time-consuming hospital duties, such as chart work and instructions to nurses.

Then there's the busy OB man who has his patients cool their heels for hours without having the receptionist tell them he's on a delivery at the hospital. While they were waiting they could have been taking those shoes to the repair man and that suit to the cleaners. When the irritated patient at last sees her doctor he hustles her through the appointment after she has collected her specimen and had her blood pressure checked by the nurse. She'd like a little time with the doctor she has chosen to deliver her baby . . . the man she trusts and respects. If he can't give her his undivided attention for a few minutes to answer questions vital to her, albeit foolish to him, a part of the intangible doctor-patient relationship is lost.

For the kinship of the doctor and patient is like marriage, in that it needs communication and constant cultivation to flourish.

DEAN F. WERNER, M.D.
President, Clay County Medical Society
Greater Kansas City Medical Bulletin
April 16, 1966

HEMOPHILIA FOUNDATION

The Greater Saint Louis Chapter of the National Hemophilia Foundation serves the interests of about 150 hemophiliacs and other patients with bleeding disorders in the eastern, central, and southern part of Missouri and the southern part of Illinois. Recently a scientific advisory council was formed consisting of professional people who all have an active interest in hemophilia: pediatricians, internists, orthopedic surgeons, dentists, nursing instructors, psychiatrists, social workers and the medical director of the Red Cross blood bank. The members of the advisory council are available for phone consultation to any physician who wants to obtain information on diagnostic procedures, treatment, nursing care or vocational counselling of hemophiliacs. There is no charge for this service.

Working subcommittees of this council will distribute from time to time pamphlets on new developments in the treatment of hemophiliacs, lists of agencies which will take care of hemophiliacs in need of vocational counselling, job placement or social rehabilitation, and other topics of interest to physicians who take care of hemophiliacs.

Any physician or dentist who would like to be on the mailing list of the Hemophilia Scientific Advisory Council or who wants the complete list of its members is invited to write to:

Scientific Advisory Council
Hemophilia Foundation
Suite 504
1221 Locust Street
Saint Louis, Missouri

JOHN D. BOUHASIN, M.D.
Chairman
Scientific Advisory Council
Hemophilia Foundation

A TIME TO GROW

In medicine as in other spheres, the marketplace of things and the marketplace of ideas are incomparably larger in our time than ever before. The exponential growth of science and technology has placed before us a bewildering array of material goods and knowledge. Every year the amount grows larger. The amount added in the past ten years is astronomical and sometimes appalling to the physician who left medical school a decade or more ago.

A two-fold problem is created for the physician by the bulging marketplace: (1) to stay informed of what is available, and (2) to be well enough informed to qualitatively assess new goods and ideas and to select for his use those which are appropriate to his practice. A physician can get by, of course, without making any real attempt to "keep up," either quantitatively or qualitatively. If he incorporates new drugs and new gadgetry into his practice occasionally—perhaps on the recommendation of a colleague or detail man—he will benefit by today's general rise in medical goods and knowledge.

American practitioners did not bring American medicine to its commanding position in the world with this kind of philosophy, however. American medicine, through its education and system of mores, selects a type of person who doesn't want to settle for "getting by." Behavioral scientists have told us that the American physician is above average in intelligence and tends to be an obsessive—compulsive personality—in other words, a person who makes great demands on himself and strives for perfection.

The American physician does not easily find time to keep up with the advances of medicine. But, for the most part, his devotion to excellence leads him to find the time to incorporate a remarkable amount of new information into his store of medical knowledge. The information comes from colleagues, medical journals, medical news publications, continuing education courses, medical meetings and conventions, drug detail men and some miscellaneous channels.

Of all methods of obtaining new information, the convention comes closest to being a synthesis of major methods. At the convention the physician has a chance to talk with detail men at commercial exhibits; he sees his colleagues and exchanges views; he attends lectures, exhibits and seminars that together constitute a course in up-to-the-minute medical thinking.

Of all medical conventions, none compares with the Annual Convention of the American Medical Association as a showcase for medical goods and knowledge. At the 1965 Annual Convention more than 600 scientific papers were presented, and more than 350 scientific exhibits were on display as well as hundreds of industrial exhibits. No other medical convention matches the range of subjects presented, from reviews of general medicine to experimental medicine and therapeutics.

The 115th Annual Convention of the AMA will be held in Chicago June 26-30 this year. As in 1962 the Scientific Program will be in McCormick Place on the Lake Michigan shoreline while the House of Delegates will meet in the Palmer House. Among special presentations planned is a general session on population expansion, a subject important to medicine and, to some extent, a crisis unique to the mid-Twentieth Century. The physician must avail himself of the latest information in order to gain adequate understanding.

The Annual Convention offers almost unlimited opportunities for absorbing new information and gaining new perspectives. Time spent in Chicago this June will be time well spent.

IN CASE SOMEONE ASKS

The National Tuberculosis Association is trying a new public education project through a national advertising campaign. The campaign is directed at persons interested in obtaining information on asthma and/or emphysema, and it invites them to "clip a coupon" in order to receive a new booklet, "Your Breathing Troubles: Understand Them, Face Them, Treat Them."

Daily newspapers, numerous national magazines and other publications of all kinds presently are carrying articles on breathing problems, particularly on emphysema. The new booklet being offered by the TB Association has been prepared carefully with the cooperation of professional advisors who are schooled in the understanding and treatment of respiratory diseases.

As a result of the general interest in this problem and in the national education campaign, physicians may find patients asking questions about the new booklet. You are invited to obtain a copy for your own review and examination by dropping a note to: The Missouri Tuberculosis and Respiratory Disease Association, 411 North 10th Street, St. Louis, Missouri 63103.

The Association's Executive Secretary, Mr. Donald Pratt, will be happy to send you a copy of "Your Breathing Troubles." He also will be able to assist you, if you desire, in obtaining or locating more scientific information on tuberculosis and respiratory diseases, information which has been prepared primarily for professional use.

FLORENCE E. MAC INNIS, M.D.
Chairman, MSMA Committee on
Tuberculosis

Woman's Auxiliary

One of the most important committees of the Woman's Auxiliary to the MSMA is the COMMUNITY SERVICE COMMITTEE. Through this unit we attempt to help the layman better understand the functions, policies and aims of the medical profession at the national, state and local levels. This may be done in ways such as promoting the use of medical society speakers, sponsoring health resolutions in women's organizations, helping with health or science fairs and distributing health literature, motion pictures or exhibit materials to clubs, schools and churches.

Mrs. Wallace R. Stacey

Informed Auxiliary members can, individually and collectively, help to mold public opinion. We, as Auxiliary members, are a segment of the public relations programs of the county medical societies, the State Association and the AMA . . . a segment with great potential. We, as women, are a force to be reckoned with because we possess one unique attribute, that of "caring" about what happens to our communities, our churches and our schools. Who would dare say that our community efforts are inspired by purely selfish motives?

If the Missouri State Medical Association at any time has a job to be done in community service, your Auxiliary is eager and willing to assist to the limit of its capabilities.

KNOW YOUR AUXILIARY

Anatomy of
Low Back Pain #1
the sedentary life
is often the seat of
low back pain

The human spine is not engineered fo prolonged sitting at desks, pianos, typewriters and drafting boards. The stresses set up by the heavy, forward-tilted head and trunk, balanced precariously on an insufficient base, result in strain of the dorsal musculature, particularly at the low lumbar level.

The unusual muscle-relaxant and analgesic properties of 'Soma' make it especially useful in the treatment of low back sprains and strains. 'Soma' is widely prescribed ☐ **to relieve pain** ☐ **to relax muscles** ☐ **to restore mobility.**

Indications: 'Soma' is useful for management o muscle spasm, pain, and stiffness in a variety o inflammatory, traumatic, and degenerative musculoskeletal conditions. It also may act to normalize motor activity in certain neurologic disturbances

Contraindications: Allergic or idiosyncratic reactions to carisoprodol.

Precautions: 'Soma', like other central nervou system depressants, should be used with caution in patients with known propensity for taking excessive quantities of drugs and in patients with known sensitivity to compounds of similar chemical structure, e.g., meprobamate.

Side Effects: The only side effect reported with any frequency is sleepiness, usually on higher than recommended doses. An occasional patient ma not tolerate carisoprodol because of an individua reaction, such as a sensation of weakness. Othe rarely observed reactions have included dizziness ataxia, tremor, agitation, irritability, headache, increase in eosinophil count, flushing of face, and gastrointestinal symptoms.

One instance each of pancytopenia and leukopenia, occurring when carisoprodol was administered with other drugs, has been reported, as ha an instance of fixed drug eruption with carisoprodo and subsequent cross reaction to meprobamate Rare allergic reactions, usually mild, have included one case each of anaphylactoid reaction with mild shock and angioneurotic edema with respirator difficulty, both reversed with appropriate therapy In cases of allergic or hypersensitivity reactions carisoprodol should be discontinued and appropriate therapy initiated. Suicidal attempts may produce coma and/or mild shock and respirator depression.

Dosage: Usual adult dose is one 350 mg. table three times daily and at bedtime.

Supplied: Two Strengths: 350 mg. white tablet and 250 mg. orange, two-piece capsules.

Before prescribing, consult package circular.

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New Members

Richard D. Aach, M.D., Barnes Hospital Plaza, St. Louis, has become a member of St. Louis Medical Society. Dr. Aach is a native of St. Louis, received his preliminary education at Washington University and his M.D. degree at Washington University in 1959. He specializes in internal medicine.

James R. Cook, M.D., 2033 S. Delaware, Springfield, has become a member of Greene County Medical Society. Dr. Cook is a native of Boonville, received his preliminary education at Drury College and his M.D. degree at the University of Missouri in 1963. He specializes in anesthesiology.

Alberto DeJesus, M.D., Barnes Hospital Plaza, St. Louis, has become a member of St. Louis Medical Society. Dr. DeJesus is a native of Puerto Rico, received his preliminary education at the University of Guadalajara and his M.D. degree at the University of Mexico in 1961. He specializes in anesthesiology.

Robert K. Dorton, M.D., 634 N. Grand Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Dorton is a native of Wayland, Kentucky, received his preliminary education at Berea College and his M.D. degree at Vanderbilt University in 1959. He specializes in internal medicine.

Harry A. Fozzard, M.D., 600 S. Euclid Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Fozzard is a native of Jacksonville, Florida, received his preliminary education at Washington and Lee Universities and his M.D. degree at Washington University in 1956. He specializes in cardiology.

George R. Gay, M.D., 1924 Sunset Dr., Springfield, has become a member of Greene County Medical Society. Dr. Gay is a native of St. Louis, received his preliminary education at Amherst College and his M.D. degree at the University of Missouri in 1961. He specializes in anesthesiology.

David C. Gleason, M.D., 510 S. Kingshighway Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Gleason is a native of Evanston, Illinois, received his preliminary education at Dartmouth University and his M.D. degree at the University of Michigan in 1960. He specializes in radiology.

(Continued on page 457)

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Contraindications: In hyperexcitability and in agitated prepsychotic states. Previous allergic or idiosyncratic reactions.

Precautions: Use with caution in patients hypersensitive to sympathomimetic compounds, who have coronary or cardiovascular disease, or are severely hypertensive.

Dextro-amphetamine sulfate: Use by unstable individuals may result in psychological dependence.

Meprobamate: Careful supervision of dose and amounts prescribed is advised; especially for patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g. alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence. Where excessive dosage has continued for weeks or months, reduce dosage gradually. Sudden withdrawal may precipitate recurrence of pre-existing symptoms such as anxiety, anorexia, or insomnia; or withdrawal reactions such as vomiting, ataxia, tremors, muscle twitching and, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, reduce dose—operation of motor vehicles, machinery or other activity requiring alertness should be avoided. Effects of excessive alcohol consumption may be increased by meprobamate. Appropriate caution is recommended with patients prone to excessive drinking. In patients prone to both petit and grand mal epilepsy meprobamate may precipitate grand mal attacks. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

Side Effects: Overstimulation of the central nervous system, jitteriness and insomnia or drowsiness.

Dextro-amphetamine sulfate: Insomnia, excitability, and increased motor activity are common and ordinarily mild side effects. Confusion, anxiety, aggressiveness, increased libido, and hallucinations have also been observed, especially in mentally ill patients. Rebound fatigue and depression may follow central stimulation. Other effects may include dry mouth, anorexia, nausea, vomiting, diarrhea, and increased cardiovascular reactivity.

Meprobamate: Drowsiness may occur and can be associated with ataxia, the symptom can usually be controlled by decreasing the dose, or by concomitant administration of central stimulants. Allergic or idiosyncratic reactions: maculopapular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case of fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis (1 case), anaphylaxis, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdosage may produce drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor, and respiratory collapse.

New Members (Cont'd)

Ralph J. Graff, M.D., 216 S. Kingshighway Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Graff is a native of St. Louis, received his preliminary education at Washington University and his M.D. degree at Washington University in 1957. He specializes in surgery.

William L. Green, M.D., 1515 Lafayette, St. Louis, has become a member of St. Louis Medical Society. Dr. Greene is a native of Berkeley, California, received his preliminary education at Harvard University and his M.D. degree at Harvard University in 1954. He specializes in internal medicine.

P. Ruben Koehler, M.D., 510 S. Kingshighway Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Koehler is a native of Berlin, Germany, received his preliminary education at Reali School, Haifa, Israel and his M.D. degree at Universitat Bern Medizinische Fakultat, Switzerland in 1956. He specializes in radiology.

Marvin E. Kuehner, M.D., 216 S. Kingshighway Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Kuehner is a native of Pflugerville, Texas, received his preliminary education at the University of Texas and his M.D. degree at Washington University in 1961. He specializes in surgery.

Herbert Lubowitz, M.D., 660 S. Euclid Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Lubowitz is a native of Worcester, Massachusetts, received his preliminary education at Clark University and his M.D. degree at Washington University in 1958. He specializes in internal medicine.

Charles B. Manley, Jr., M.D., Barnes Hospital Plaza, St. Louis, has become a member of St. Louis Medical Society. Dr. Manley is a native of Tulsa, Oklahoma, received his preliminary education at the University of Missouri and his M.D. degree at the University of Missouri in 1958. He specializes in urology.

Roy M. Y. Nomura, M.D., 3520 Chippewa, St. Louis, has become a member of St. Louis Medical Society. Dr. Nomura is a native of Honolulu, Hawaii, received his preliminary education at St. Louis University and his M.D. degree at St. Louis University in 1959. He specializes in pathology.

(Continued on page 458)

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New Members (Cont'd)

Wolfgang P. Schuessler, M.D., 6744 Clayton Rd., St. Louis, has become a member of St. Louis Medical Society. Dr. Schuessler is a native of Beuthen, Germany, received his preliminary education at the University of Cologne and his M.D. degree at the University of Marburg in 1956. He specializes in internal medicine.

Kenneth R. Smith, Jr., M.D., 1402 S. Grand Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Smith is a native of St. Louis, received his preliminary education at Greenville College and his M.D. degree at Washington University in 1957. He specializes in neurology.

Robert S. Smith, M.D., 4623 S. Broadway, St. Louis, has become a member of St. Louis Medical Society. Dr. Smith is a native of St. Louis, received his preliminary education at Grinnell College and his M.D. degree at St. Louis University in 1963. He is in general practice.

Joseph R. Williamson, M.D., 660 S. Euclid Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Williamson is a native of Enid, Oklahoma, received his preliminary education at Phillips University and his M.D. degree at Washington University in 1958. He specializes in pathology.

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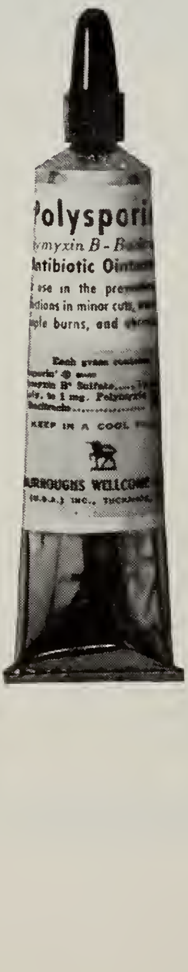

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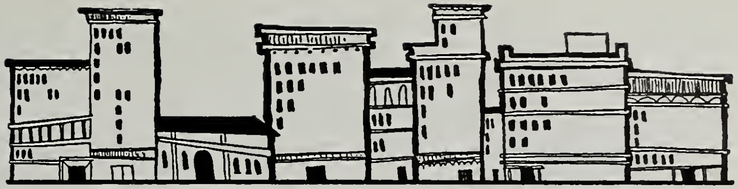
From the Medical Schools



ST. LOUIS UNIVERSITY

Two major appointments at the Saint Louis University Medical Center have been announced.

Dr. Ernest N. Boettcher, associate executive director of the Hartford Hospital, has been named Director of the Saint Louis University Hospitals. He succeeds John B. Warner, Jr., who has resigned to establish a hospital consultancy firm. Born in Radway, Alberta, Canada, Dr. Boettcher received the bachelor of science and doctor of medicine degrees from the University of Alberta and studied hospital administration at the University of Toronto.

Dr. Frederick G. Germuth, Jr., director of laboratories and pathologist-in-chief at Aultman Hospital in Canton, Ohio, has been appointed Chairman of the Department of Pathology at the School of Medicine. He will succeed Dr. Henry Pinkerton who has been named Professor and Director Emeritus of the Department. Dr. Germuth, a native of Baltimore, received the A.B. and M.D. degrees from Johns Hopkins University. His research is in the field of immunopathology which deals with the study of the effects of allergic and immunologic reactions on the causation of disease.

Dr. Ralph A. Kinsella, Sr., Professor and Director Emeritus of the Department of Internal Medicine, was the recipient of the first annual Ralph Kinsella Award, given by alumni and student members of the Lambda Chapter of Phi Beta Pi Medical fraternity. He received an honor scroll for his contributions to academic medicine as professor, investigator and physician.

WASHINGTON UNIVERSITY

Dr. Robert J. Terry, Emeritus Professor of Anatomy at Washington University School of Medicine, died April 18, in Weston, Massachusetts. Dr. Terry, who was born in St. Louis, was

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95 years old and the oldest living faculty member of the School of Medicine. He introduced many reforms in the teaching of anatomy which were incorporated into his book, *Introduction to the Study of Human Anatomy,* published in 1929.

Dr. Henry Schwartz has been named President-Elect of the Harvey Cushing Society. Dr. Schwartz is Professor of Neurological Surgery and acting head of the Department of Surgery.

The Marvin Feinstein Memorial Foundation has presented $1,800 to the Division of Hematology of the School of Medicine for research on leukemia. Dr. Elmer Brown, Associate Professor of Medicine and Head of the Division of Hematology, said the gift would be used by Drs. Rosalind and Stuart Kornfeld in their investigation of study of the surface sugar configuration of leukemic and other cells.

Dr. H. William Scott, Professor of Surgery and Chairman of the Department of Surgery at Vanderbilt University School of Medicine, Nashville, Tennessee, was the Merck Sharp & Dohme visiting professor of surgery for 1966. During his visit, Dr. Scott presented a lecture on experimental work on arteriosclerosis.

Dr. M. Kenton King, Dean of the School of Medicine, has been awarded a citation by the United States Navy. He received the Commandant's Certificate of Merit for his support of the Naval Reserve Medical Program.

UNIVERSITY OF MISSOURI

The University of Missouri has been awarded a $4,012,000 grant by the U. S. Public Health Service for construction of a new School of Dentistry on "Hospital Hill" in Kansas City. The proposed four-story structure will be the first new building in the planned "Hospital Hill" medical and health care complex. Total cost of the building is estimated at $7,500,000 and is scheduled for completion in 1968.

Two members of the faculty at the M.U. School of Medicine have received Commonwealth Fund grants to assist with traveling expenses while on sabbatical next year. Dr. Jack M. Martt, Professor of Medicine and Director of the Cardiopulmonary Laboratories at University Medical Center, will spend the year at Karolinski Institute in Stockholm. He will teach a part of the time and will rotate through the various laboratories and clinics which relate to cardiology. Dr. John H. Landor, Associate Professor of Surgery, will spend his leave at the Postgraduate Medical School in London. He will continue his research in gastrointestinal physiology as it relates to peptic ulcer.

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Notes of interest from Here . . . . and There

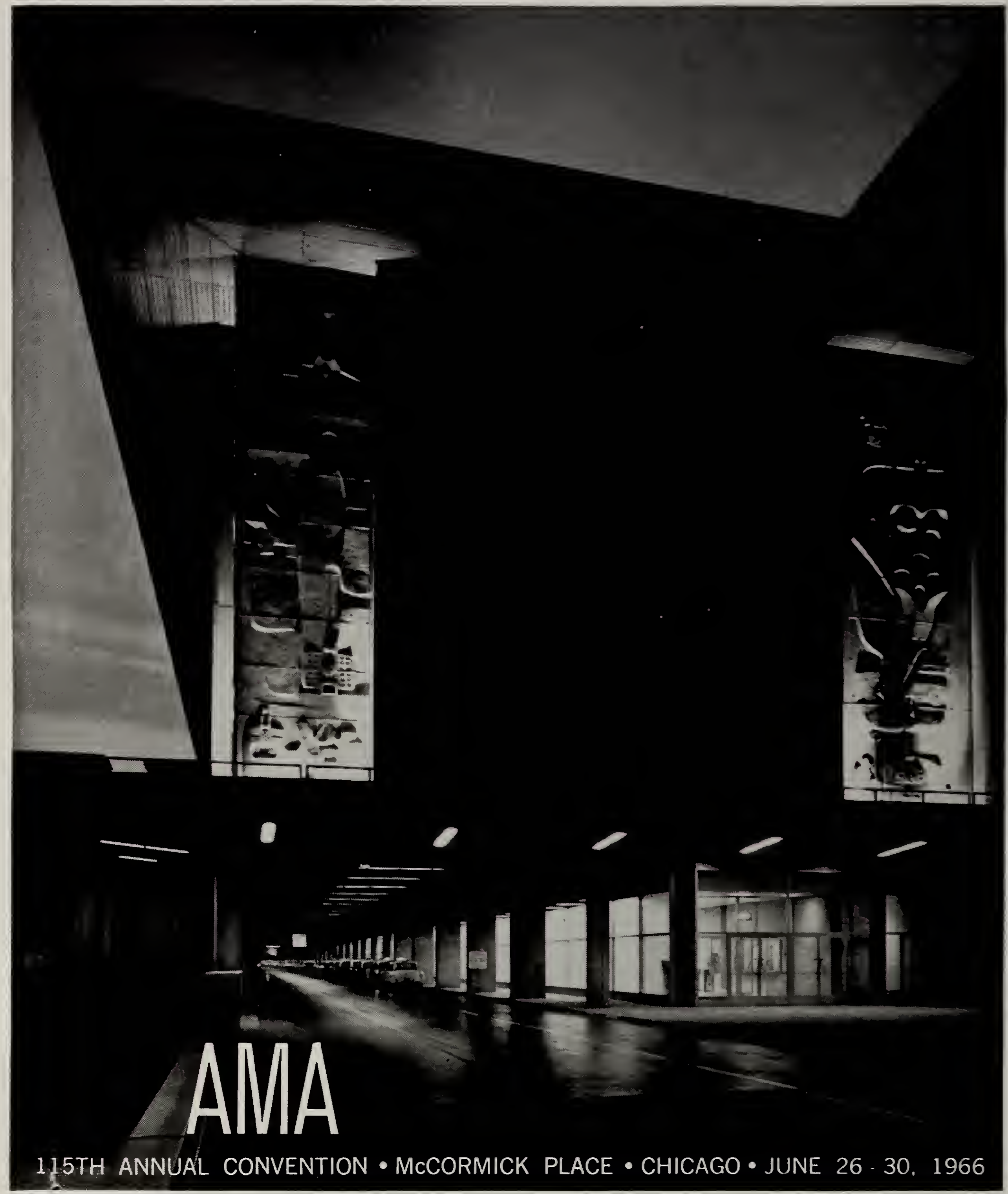
Dr. **James M. A. Weiss**, professor and chairman of Psychiatry at the University of Missouri, has been elected President of the newly formed Missouri Academy of Psychiatry. This is the first state-wide organization of psychiatrists to be formed in Missouri. Other officers in the new organization are: Dr. **Retus W. Osborn, III**, Farmington, President-Elect; Dr. **James N. Haddock**, Clayton, Secretary-Treasurer; Dr. **Manson B. Pettit**, St. Joseph, Councilor (1967); and Dr. **George J. Lytton**, Kansas City, Councilor (1968). Meetings of the Academy will be planned to coincide with the annual meeting of the MSMA each Spring. Purposes of the Academy include bringing psychiatry closer to general medicine in Missouri, stimulating greater participation by psychiatrists in the affairs of the State Medical Association, encouraging scientific presentations on psychiatric topics on the MSMA programs, and promoting professional interests of psychiatry in relationship to medicine in general.

An executive of the American Medical Association has called for the development of an "early warning system" which would alert medical authorities of each new hazard of drug use before people suffered significant and unnecessary harm. Dr. Jean K. Weston, director of the AMA's Council on Drugs, said that a more sensible pattern of reason and common sense should be applied to each adverse drug reaction problem by those who are most competent to make appropriate value judgments. He spoke at the dedication of Lederle Laboratories' new SubbaRow Memorial Library, which honors the company's first director of research, Dr. Yellapragada SubbaRow, a native of India.

Dr. **Carl J. Dreyer** has been elected President of the St. Louis Gynecological Society at its annual meeting. Other new officers are: Dr. **William F. McGinnis**, President-Elect; Dr. **Matt H. Backer**, Vice President; Dr. **Seymour Monat**, Secretary; Dr. **Robert Burstein**, Treasurer; and Dr. **William Smiley**, Editor. . . . Dr. **Clinton W. Lane** of St. Louis was recently elected President of the American Dermatological Association at its 86th Annual Meeting in Hot Springs, Virginia.

Cigarette smokers continued to have a higher death rate than non-smokers among 250,000 U. S. military service veterans who were observed for more than eight years of a ten-year study project by the Public Health Service. Among the causes of death which were tabulated, only Parkinson's disease was associated with significantly lower mortality rates for smokers. Findings of the nearly completed study show that, in the same age group, 11 times as many cigarette smokers as non-smokers died of lung cancer and 12 times as many died of emphysema.

Two Missouri physicians were featured in separate articles in the April 18 issue of *Medical Economics*. Dr. **Harry S. Jonas**, an Ob-Gyn man from Independence, is the author of "I Took the Course in Practical Politics," in which he relates his experiences first as a neophyte politician and finally as a successful candidate for the city council. The other article describes how St. Louis orthopedic surgeon, Dr. **J. Otto Lottes**, has turned to "tree farming" as a possible source for reliable retirement income.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See JAMA May 9 for complete scientific program—forms for advance registration and hotel accommodations.

In Memoriam

Knox, Earl R., M.D., Kansas City, a graduate of Jefferson Medical College, 1931; member of Clay County Medical Society; aged 60; died March 29, 1966.

Curran, Herbert A., M.D., St. Joseph, a graduate of the University of Kansas, 1959; member of Buchanan County Medical Society; aged 46; died April 3, 1966.

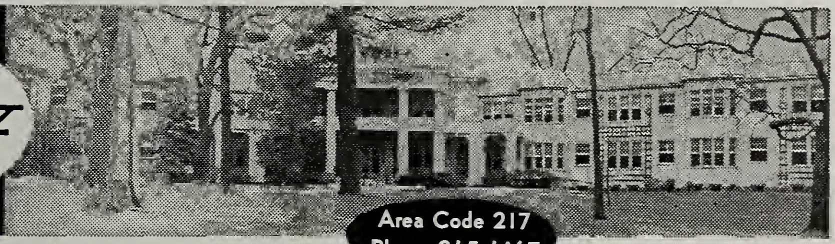
McDonald, Bruce P., M.D., Kansas City, a graduate of Meharry Medical School, 1941; member of Jackson County Medical Society; aged 50; died April 12, 1966.

Birney, William P., M.D., Hannibal, a graduate of Bennett Medical College, 1908; member of Marion-Ralls-Shelby County Medical Society; aged 87; died April 13, 1966.

Long, Forrest C., M.D., Savannah, a graduate of St. Louis University, 1935; member of Andrew County Medical Society; aged 65; died April 17, 1966.

Canepa, John, M.D., St. Louis, a graduate of St. Louis University, 1924; member of the St. Louis County Medical Society; aged 68; died April 18, 1966.

Henrickson, Hardin O., M.D., Poplar Bluff, a graduate of the University of Louisville, 1943; member of Butler-Ripley-Wayne County Medical Society; aged 56; died April 18, 1966.



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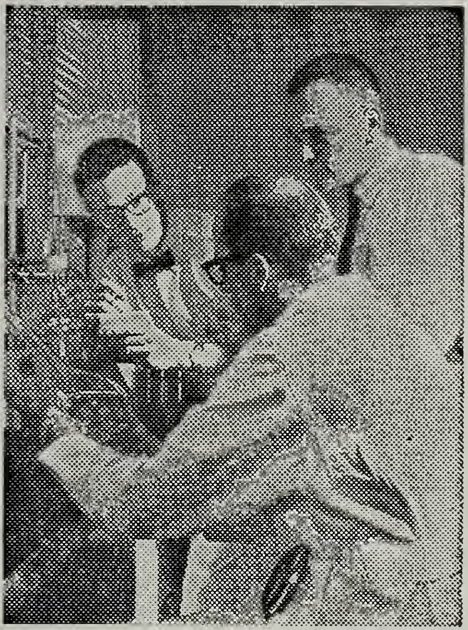

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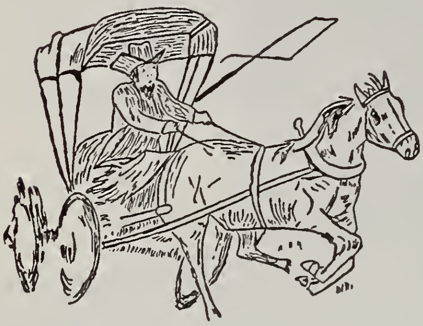
Missouri Medicine in Review



FORTY YEARS AGO

The 69th Annual Meeting of MSMA held in St. Louis, May 17-20, gave the members who attended the meeting an opportunity to observe many interesting clinical demonstrations at the Washington University Medical School and the St. Louis University Medical School. The attendance was a disappointment, there being only 427 registered. Preparations had been made for an attendance of 600 or 700. The session was favored by the presence of Dr. John A. Witherspoon of Nashville, Tenn., the guest of the Association, and of Dr. Jabez N. Jackson of Kansas City, the newly elected President-Elect of the AMA.

Missouri has not yet wholly cast aside the mantle of shame thrust upon her by the operations of "medical diploma mills," because the offending schools are still operating. It is true that a special commissioner after having heard evidence of the operations of these schools, the St. Louis College of Physicians and Surgeons and the Kansas City College of Medicine and Surgery, has recommended to the Supreme Court that their charters be revoked for violations of their charter provisions.

The Annual MSMA Golf Tournament was held at the North Hills Country Club, St. Louis, on Monday, May 17. Paul Y. Tupper, J. Alden and Fred Woodruff won the prizes for dignity of form, honesty of score and assiduous preparation. It is regretted that these columns cannot print the post-prandial orations, but the fuse blew out and the static became so confusing that only the president remembers them and he won't squeal. Dr. W. A. Clark of Jefferson City was elected President and Dr. A. J. Welch of Kansas City was elected Secretary-Treasurer for 1927.

TWENTY-FIVE YEARS AGO

There are in Missouri about 5,500 licensed physicians. Membership in MSMA is 3,303.—Dr. Homer L. Kerr, Crane, was elected President-Elect of the Association by the House of Delegates at the St. Louis Session, April 28-30. He will be installed as President at the Kansas City Session in 1942. The 89th Annual Session convened in St. Louis for the first time in 15 years, had the largest registration in the history of the Association and the best attendance at the scientific sessions. Dr. R. B. Denny, Creve Coeur, was installed as President.

Dr. James E. Stowers, Kansas City, was installed as President of the Kansas City Surgical Society at the annual dinner of the Society on May 7. Dr. B. L. Myers was elected Vice-President and Dr. Harry C. Lapp Secretary-Treasurer.

Eighty-nine items of the Paracelsus Collection of the St. Louis Medical Society formed the basis of an exhibit at the 17th annual meeting of the American Association of the History of Medicine at Atlantic City, May 4-6. The Paracelsus Collection of the St. Louis Medical Society was presented to the Society in 1939 by Dr. Schlueter who had assembled it through many years of collecting. It is the largest of two Paracelsus collections in this country.

TEN YEARS AGO

The Perry County Medical Society has recently worked out arrangements for presenting a number of health education programs over radio station KSGM at Ste. Genevieve. Some of these will be live programs using members of the Society, while others will utilize transcriptions secured from the AMA Bureau of Health Education.—New chief of staff of the St. Francis Hospital, Maryville, is H. C. Bauman, M.D., who addressed an annual dinner meeting at the hospital held early in April.

The Springfield Chamber of Commerce elected Durward G. Hall, M.D., President for a second term.—Seventy-five physicians attended the First Annual Ozark Empire Cancer Conference held in Springfield on April 25. This Conference was sponsored by the Greene County Medical Society in cooperation with the Missouri Division of the American Cancer Society.

Minutes of the
108th Annual Session

MISSOURI STATE MEDICAL ASSOCIATION

House of Delegates

Muehlebach Hotel **Kansas City**

March 27-30, 1966

FIRST SESSION
Sunday, March 27

The First Session of the House was called to order at 1:30 PM in the Grand Ball Room with Stanley S. Peterson, Speaker, presiding. The following officers, councilors and delegates were present during the 108th Annual Session:

Officers

President	Paul R. Whitener, St. Louis
President-Elect	Byron M. Stuart, Boonville
Vice-President	Charles Sherwin, St. Louis
Vice-President	Harold Miller, Willow Springs
Secretary	John I. Matthews, Jefferson City
Treasurer	Walter T. Gunn, St. Louis
Speaker of the House	Stanley S. Peterson, Springfield
Vice-Speaker of the House	Paul F. Max, St. Louis

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1st District	Joseph L. Fisher, St. Joseph
2nd District	Lysle M. Bach, Hannibal
3rd District	David N. Kerr, St. Louis
4th District	Robert A. Mayer, St. Louis
5th District	James C. Cope, Columbia
6th District	Rolla B. Wray, Nevada
7th District	Hector W. Benoit, Jr., Kansas City
8th District	Doyle C. McCraw, Bolivar
9th District	E. A. Stricker, St. James
10th District	W. D. English, Cardwell

DELEGATES

First District

Andrew	Warren C. Baker, Savannah
Buchanan	John N. Martin, St. Joseph
Buchanan	Ernest Wadlow, St. Joseph
Clay	Truman Schertz, N. Kansas City
Clay	Weldon Sportsman, Kansas City
Clinton	P. T. Luckenbill, Clinton
Grand River	
Carroll	John Platz, Carrollton
Grundy	Chester Clark, Trenton
Harrison	Willard Ellsworth, Cainsville
Linn	John R. Dixon, Brookfield
Livingston	Donald M. Dowell, Chillicothe
Northwest	
Gentry	Troy Morgan, Albany
Nodaway	Elvin D. Imes, Maryville
Worth	Frank Matteson, Grant City
Platte	S. Lloyd Allen, Kansas City

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Lewis-Clark-Scotland	Landis Y. Davis, Canton
Marion-Ralls-Shelby	Phil Foreman, Hannibal
North Central	
Adair	Mark M. Tendai, Kirksville
Pike	John K. Day, Bowling Green

Third District

St. Louis City	Bryce H. Bondurant, St. Louis
St. Louis City	Richard Bradley, St. Louis
St. Louis City	Joseph P. Costello, St. Louis
St. Louis City	John Eberle, St. Louis
St. Louis City	Max S. Franklin, St. Louis
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St. Louis City	James Haddock, St. Louis
St. Louis City	George Hawkins, St. Louis
St. Louis City	Charles Jost, St. Louis
St. Louis City	Edward Kinsella, St. Louis
St. Louis City	Charles B. Ladd, St. Louis
St. Louis City	Maurice Lonsway, St. Louis
St. Louis City	J. Otto Lottes, St. Louis
St. Louis City	Paul F. Max, St. Louis
St. Louis City	William Melick, St. Louis
St. Louis City	Sam Merenda, St. Louis
St. Louis City	Raymond Muether, St. Louis
St. Louis City	A. W. Neilson, St. Louis
St. Louis City	Charles A. Nester, St. Louis
St. Louis City	Charles Nicolai, St. Louis
St. Louis City	Lawrence W. O'Neal, St. Louis
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Jefferson	J. L. Mayfield, Crystal City
Lincoln-St. Charles	Edward Damron, Elsberry
Lincoln-St. Charles	Paul Rother, St. Charles
St. Louis	C. Read Boles, St. Louis
St. Louis	Edgar Davis, St. Louis
St. Louis	C. Howe Eller, St. Louis
St. Louis	Allen P. Klippel, St. Louis
St. Louis	Charles Miller, Jr., St. Louis
St. Louis	James Nakada, St. Louis
St. Louis	J. Martin Schattyn, St. Louis
St. Louis	James Sisk, St. Louis
St. Louis	Richard Sutter, St. Louis
St. Louis	Miles Whitener, St. Louis

Fifth District

Audrain	Ben Jolly, Mexico
Boone	LeRoy Miller, Columbia
Boone	C. Thorpe Ray, Columbia
Boone	Hugh Stephenson, Columbia
Callaway	Henry Durst, Fulton
Cole	Donald Shull, Jefferson City
Cooper	G. W. Winn, Boonville
Howard	W. A. Bloom, Fayette
Morgan	Ray Lyle, Versailles

Sixth District

Henry	R. S. Hollingsworth, Clinton
Johnson	A. L. Folkner, Warrensburg
Lafayette-Ray	Jordan Kelling, Waverly
Lafayette-Ray	Frank Crozier, Richmond
Pettis	C. G. Stauffacher, Sedalia
Saline	R. C. Haynes, Marshall
West Central	
Bates	Arthur Hansen, Butler
Cass	O. B. Barger, Harrisonville
Cedar	Robert Magee, El Dorado Springs
St. Clair	Donald Giesler, Osceola
Vernon	William Allen, Nevada

Seventh District

Jackson	Pat Barelli, Kansas City
Jackson	John Barnard, Kansas City
Jackson	William Gist, Kansas City
Jackson	John Griffith, Kansas City
Jackson	Kenneth Hollweg, Kansas City
Jackson	William Leo, Kansas City
Jackson	George Lytton, Kansas City
Jackson	Andrew McCanse, Kansas City
Jackson	Frederick McCoy, Kansas City
Jackson	Paul Meyer, Kansas City
Jackson	Gerald Miller, Kansas City
Jackson	William Mixson, Kansas City
Jackson	Ralph Perry, Kansas City
Jackson	Russell Shelden, Kansas City
Jackson	Harry Statland, Kansas City
Jackson	Walter Stelmach, Kansas City
Jackson	Charles Wheeler, Kansas City

Eighth District

Dallas-Hickory-Polk	O. A. Griffin, Buffalo
Greene	Robert Maher, Springfield
Greene	Stanley Peterson, Springfield
Greene	Edwin M. Powell, Springfield
Greene	William Snead, Springfield
Jasper	Richard R. Cohle, Carthage
Jasper	L. S. Crispell, Joplin
Ozarks	
Lawrence	Kenneth Glover, Mount Vernon
Stone	Fred Wommack, Crane
Taney	James Crain, Branson
Webster	T. M. Macdonnell, Marshfield

Ninth District

Mid-Missouri	
Dent	B. J. Bass, Salem
Laclede	Rae Froelich, Lebanon
Phelps	Barbara Russell, Rolla
South Central	
Howell	Harold Miller, Willow Springs
Oregon	C. W. Cooper, Thayer
Texas	Joe Wall, Houston

Tenth District

Butler-Ripley-Wayne	Eugene Hansbrough, Poplar Bluff
Cape Girardeau	Edwin Burford, Cape Girardeau
Cape Girardeau	H. B. Rapp, Cape Girardeau
Mineral Area	
Iron	Robert Dettmer, Ironton
Madison	C. E. Michaelis, Fredericktown
St. Francois	C. W. Chastain, Farmington
Washington	George F. Cresswell, Potosi
Perry-Ste. Genevieve	S. G. Legner, Perryville
Perry-Ste. Genevieve	J. F. Lutkewitte, Ste. Genevieve
Semo	
New Madrid	Charles Reeder, New Madrid
Scott	Stephen Parks, Sikeston

The invocation was given by Association President Dr. Paul R. Whitener.

The chairman of the Credentials Committee, Dr. Gerald Miller, reported that satisfactory credentials had been presented by four officers, ten councilors and 110 delegates. He informed the House that this number of delegates constitutes a quorum.

Dr. Hector W. Benoit reported briefly on the work of the Arrangements Committee and expressed the hope that the House woud find everything in order.

The minutes of the 107th (1965) Annual Session, which were published in the July 1965 issue of MISSOURI MEDICINE, were accepted as published.

The Speaker announced appointment of the following reference committees:

ON REPORTS OF OFFICERS

Charles Gulick, St. Louis, Chairman.
W. J. Stelmach, Kansas City.
Charles Chastain, Farmington.
Chester Clark, Trenton.
Claude Cooper, Thayer.

ON AMENDMENTS TO THE CONSTITUTION AND BY-LAWS

William Mixson, Kansas City, Chairman.
Edwin Powell, Springfield.
C. R. Boles, St. Louis.
James Haddock, St. Louis.
Phillip Foreman, Hannibal.

ON MISCELLANEOUS AFFAIRS

C. G. Stauffacher, Sedalia, Chairman.
Max Franklin, St. Louis.
G. W. Winn, Boonville.
Frederick McCoy, Kansas.
Fred Wommack, Crane.

ON RESOLUTIONS

James Sisk, St. Louis, Chairman.
Edwin Burford, Cape Girardeau.
Robert Magee, El Dorado Springs.
Frank Matteson, Grant City.
Rae Froelich, Lebanon.

ON MEDICAL EDUCATION AND PUBLIC WELFARE

Hugh Stephenson, Columbia, Chairman.
Sam Merenda, St. Louis.
Paul Rother, St. Louis.
Paul Meyer, Kansas City.
O. A. Griffin, Buffalo.

ON NECROLOGY

E. E. Wadlow, St. Joseph, Chairman.
Eugene Hansbrough, Poplar Bluff.
Ray Lyle, Versailles.
William Melick, St. Louis.
Mark Tendai, Kirksville.

The Speaker called on Doctor Whitener to deliver the annual President's Message.

(The President's Message is published on Page 523.)

Upon completion of his address Doctor Whitener was given a standing ovation by the House.

The Speaker then called on Dr. Byron M. Stuart to present the annual message of the incoming President.

(Doctor Stuart's address is published on Page 525.)

Upon completion of his address Doctor Stuart received a standing ovation by the House. Both Presidential messages were referred to the Committee on Reports of Officers.

The Speaker then invited Mrs. Ralph Bohnsack to present the annual report of the President of the Woman's Auxiliary.

(The report is published on Page 527.)

Mrs. Bohnsack received a standing ovation upon completion of her report which was referred to the Committee on Reports of Officers.

The Speaker invited Congressman Durward G. Hall, M.D., to address the House. Doctor Hall briefly reviewed national political and legislative developments which were affecting medicine and health care, and he urged support of the political action organizations of organized medicine. He also announced that he will not be a candidate for re-election as a Missouri Delegate to the AMA. Doctor Hall received a standing ovation at the completion of his remarks.

The following reports, which were published in the Delegates Handbook, were noted and assigned to appropriate reference committees.

REPORT OF THE SECRETARY

The Missouri State Medical Association had 3,995 members as of December 31, 1965. This was an increase of 67 members over the previous year.

MEMBERSHIP CHANGES DURING YEAR

Members, January 1, 1965		3,928
New Members admitted during year	188	
Reinstated	5	
Total added	193	
Members dropped during year	10	
Deceased	67	
Transferred to other states	44	
Resigned	5	
Total lost	126	
Net gain		67
Members, December 31, 1965		3,995

The Committee on Nominations, which is appointed by the President from the House of Delegates, must submit nominations for the following offices:

Three Vice Presidents to fill the expired terms of Charles S. Sherwin, St. Louis; Roy W. Pearse, Nevada; Harold W. Miller, Willow Springs.

A Speaker of the House of Delegates and a Vice Speaker of the House of Delegates to fill the expired terms of Stanley S. Peterson, Springfield, Speaker; and Paul F. Max, St. Louis, Vice-Speaker.

Two Delegates and corresponding alternates to the American Medical Association to fill the vacancies created by the expiration on December 31, 1966, of the terms of Delegate, Durward G. Hall, Springfield; Alternate, J. H. Summers, Lebanon; Delegate, J. Loren Washburn, Versailles; Alternate, Thompson E. Potter, St. Joseph.

The terms (two years) of the Councilors of the odd numbered districts expire this year. These Councilors are: Joseph L. Fisher, St. Joseph, First District; David N. Kerr, St. Louis, Third District; James D. Cope, Columbia, Fifth District; Hector W. Benoit, Jr., Kansas City, Seventh District; E. A. Stricker, St. James, Ninth District. Delegates from these districts shall meet during the meeting, prior to the last day, and elect the Councilor for their district. The election shall be certified to the House of Delegates on a prescribed form which will be furnished.

The entire session will be held in Hotel Muehlebach, Kansas City. The House of Delegates will hold its first session on Sunday, March 27, at 1:30 p.m., in the Grand Ballroom. Reference Committees will meet in committee rooms in the hotel. The second session of the House of Delegates will convene at 4:00 p.m., Monday, March 28, in the Grand Ballroom. The final session of the House, a breakfast meeting, will be held in the Grand Ballroom of the hotel at 7:30 a.m., on Wednesday, March 30.

Registration facilities will be open on Sunday, March 27, from noon to 3:00 p.m.; on Monday and Tuesday from 8:00 a.m. to 5:00 p.m.; and on Wednesday, from 7:30 a.m. to 9:00 a.m. Registration will be on the Mezzanine floor of the hotel.

John I. Matthews, Secretary

REPORT OF THE TREASURER

The report of the Treasurer is covered in the Financial Statement which appeared in the March issue of MISSOURI MEDICINE. This publication was in the hands of members and county medical societies nearly one month prior to the session, and therefore, it is not repeated here.

Walter T. Gunn, Treasurer

REPORT OF THE EXECUTIVE SECRETARY

As of October, 1965, I was appointed your Executive Secretary. The personnel in the office, Mr. Tom Fox, Mr. Allen Smith, Mrs. Mary Laskiwitz, Mrs. Janice Schuckenbrock, Mrs. Bertha Thomas and Mrs. Shirley Volk, have been most helpful to me in my new assignment. They have my grateful thanks. They are also most deserving of the thanks of the members for devoted service to the Association.

A special word is called for in the stepping down of Tom O'Brien, for health reasons, to the position of Executive Assistant. His continuing work with the Association, though in a less demanding capacity, will be of invaluable assistance to the Association as well as to us in the Executive Office.

Raymond McIntyre, Executive Secretary

REPORT OF THE COMMITTEE ON SCIENTIFIC AND POSTGRADUATE WORK

The Committee has worked hard this year to plan and present a scientific program for the 1966 MSMA Annual Session which will be of real interest to the membership. A large number of panel discussions and symposiums have been scheduled of sufficient broad interest to attract the entire Association membership. With two or more scientific sessions running at the same time, along with a continuous program of scientific movies, the Committee feels that there is sufficient variety in the program to be of major significance in promoting this year's attendance. The program has also been more attractive through the assistance of other organizations and committees of the Association which have taken part in developing particular sessions.

Special thanks are given to the following for their assistance: Missouri Ophthalmological Society, Missouri Division of the American Cancer Society, Missouri Surgical Society, Missouri Radiological Society, Missouri University Medical Alumni, MSMA Committees on Maternal Welfare, Trauma and Anesthesiology.

Throughout the year the Committee with the assistance of the Executive Office staff has assisted county medical societies in planning joint meetings and in obtaining speakers for such meetings as well as for regular component society meetings. In this respect, the Committee has worked closely with other organizations such as the Missouri Academy of General Practice and the University of Missouri Medical School, so that duplication of effort has been reduced to a minimum. The Committee has cooperated with other committees of the Association in providing special programs for a number of county societies. The Maternal Welfare Committee, the Medical Education and Hospitals Committee and the Committee on Control of Venereal Disease have been particularly helpful in this respect.

Following a meeting on postgraduate medical education in February of 1965, sponsored by the Committee on Continuing Medical Education of the University of Missouri Medical School, additional members representing each councilor district of the MSMA were appointed to our committee by the President. The members of our Committee have been requested to secure information from the county societies as to types of PG programs desired in the various areas. With this information at hand, the Committee plans to meet with representatives of the Committee on Continuing Medical Education of the University of Missouri, to further discuss and develop better programs for PG medical education.

It is hoped that all three of the medical schools in Missouri may be brought into cooperative endeavors to promote these objectives.

The Committee again wishes to sincerely thank all of those physicians who have appeared on the many scientific postgraduate programs presented over the state of Missouri since our 1965 Annual Session.

John I. Matthews, Chairman
M. Pinson Neal
Peter G. Danis
J. F. McDonnell
Richard W. Yore
Richard O. Craig
Paul B. Anderson
Joe L. Spears
Paul H. Rother
Charles P. McGinty
R. A. Slickman
Edward D. Kinsella
Roy Pearse
T. J. Fischer

REPORT OF THE PUBLICATION COMMITTEE

The 62nd volume of MISSOURI MEDICINE was completed with publication of the December 1965 issue. During the year 11 scientific issues and two organizational issues were printed and distributed to member-physicians, other subscribers and to those persons and institutions which receive complimentary copies. At year's end MISSOURI MEDICINE's total circulation was approaching the 4,500 mark.

During the year 61 scientific papers, most of them by Missouri authors, were presented. In addition to the scientific material, readers of the journal found special reports on Ellis Fischel State Cancer Hospital and the Mid-Missouri Mental Health Center, the 1965 revision of the MSMA Constitution and By-Laws, news of Association activities and items of interest to the profession in Missouri. The Editors have tried to encourage and stimulate both scientific and non-scientific contributions.

Advertising revenues for 1965 totaled $35,673.24. This was an increase of $99.37 over the previous year and represented a reversal of a declining trend which had been underway since 1959. Despite this encouraging change in the income situation, higher costs more than cancelled the gain in revenues and the journal completed the year with an overall loss of $19,601.38.

The financial report for MISSOURI MEDICINE for 1965 is as follows:

INCOME		$41,405.44
Member Subscriptions	$ 5,461.50	
Non-member Subscriptions	270.00	
Advertising	35,673.24	
EXPENSES		$61,006.82
Salaries*	$24,230.63	
Printing, Paper, etc.	29,808.63	
Postage	924.64	

Discount to advertisers for cash payments	199.35	
Commissions to advertising bureau and agencies	5,843.57	
EXCESS OF EXPENSES OVER INCOME		*$19,601.38*

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* Portions of Executive Office staff salaries are charged to Publication Fund, estimated on amount of time various individuals actually devote to work on MISSOURI MEDICINE.

In connection with publication finances, the Council has authorized your Committee to revise the subscription rate schedule, if such action is found to be desirable. There has been no change in subscription rates for at least 30 years. The Council also approved a Committee recommendation that MISSOURI MEDICINE accept contraceptive and low mineral content water advertising, subject to final Committee approval of copy.

Joseph V. Finnegan, Chairman
Richard H. Kiene
C. G. Stauffacher
R. O. Muether
Ben M. Bull

REPORT OF THE COMMITTEE ON MEDICAL ECONOMICS

The Council has assigned to the Committee the task of considering Title XIX of Public Law 89-97 and of making recommendations regarding state legislation to develop programs called for by this Act, if such action is deemed necessary and appropriate.

The Committee will be assisted by the present medical members of the Advisory Committee of the State Division of Welfare, Avery P. Rowlette, M.D., Moberly, and Stanley S. Peterson, M.D., Springfield. In addition, Robert H. Tanner, M.D., Jefferson City, who has served in an advisory capacity in the administration of the present Kerr-Mills program in Missouri, will also assist the Committee.

A meeting called by the AMA to explain the background and legal aspects of Title XIX, Public Law 89-97 was held in Chicago, January 20, 21, 1966. Drs. Rowlette and Peterson and MSMA staff members attended this meeting.

The Committee and its special consultants plan to work closely with representatives of the State Division of Welfare, which will administer the program, in the development of any needed legislation. Any such legislation will be submitted to the membership for consideration and study prior to the 1967 Session of the Missouri Legislature.

As is customary, the Committee is furnishing information about the Blue Cross and Blue Shield plans in Missouri.

KANSAS CITY BLUE CROSS

Membership, November 30, 1964	452,710
Membership, November 30, 1965	452,629
Amount paid to hospitals, December 1, 1964 through November 30, 1965	$20,101,866.00

ST. LOUIS BLUE CROSS

Membership, November 30, 1964	1,010,858
Membership, November 30, 1965	1,031,301
Amount paid to hospitals, December 1, 1964 through November 30, 1965	$41,185,150.00

KANSAS CITY BLUE SHIELD

Membership, November 30, 1964	438,352
Membership, November 30, 1965	439,100
Amount paid to doctors, December 1, 1964 through November 30, 1965	$10,028,658.00

ST. LOUIS BLUE SHIELD

Membership, November 30, 1964	734,714
Membership, November 30, 1965	713,009
Amount paid to doctors, December 1, 1964 through November 30, 1965	$13,818,812.00

Martin P. Hunter, Chairman
Rae W. Froelich
John R. Forgrave
G. W. Winn
Herbert C. Wiegand
Kenneth E. Knabb
Donald J. Giesler
Chester L. Clark
C. O. Vermillion
Charles Miller, Jr.

REPORT OF THE COMMITTEE ON CANCER

The Committee met November 28, 1965.

John S. Spratt, Jr., M.D., Chief of Staff at Ellis Fischel State Cancer Hospital, was invited to report on cancer registries developed to date in Missouri. Dr. Spratt called attention to action by the MSMA House of Delegates during the 106th Annual Session approving cancer registry. (See MISSOURI MEDICINE, July 1964, page 571.) He reported that to date 15 registries have been organized across the state in addition to the one at Ellis Fischel. Directors of the registries meet periodically to exchange information and experiences, and they have developed forms: (a) Missouri Cooperative Tumor Registry: Initial Report; and (b) Missouri Cooperative Tumor Registry: Follow-up Report. These forms are used to collect diagnosis and treatment information which is compiled and sent to either Washington University or the University of Missouri for processing by computers. It is anticipated that the information which will be forthcoming from these analyses will be of practical use in evaluating methods of detection and treatment used at each participating hospital. Sample copy of the forms were distributed to the Committee.

The director group suggests that for the present, individual hospital registries should be developed rather than a single coordinated registry at the state level. It was agreed, however, that eventually a single state program should be developed. Dr. Spratt exhibited two books at the meeting: *Clinical Staging System for Cancer*, American Joint Committee of Cancer Staging and End Results, 55 East Erie St., Chicago 11, Illinois; and *Systematized Nomenclature of Pathology*, College of American Pathologists, Chicago, Illinois, 1965. The staging and nomenclature system in these manuals will be used by the registries.

It was reported that certain hospitals still lack funds for organization or expansion of a cancer registry and three possible sources of funds were suggested: (1)

state budget through the Missouri Division of Health, (2) project support from Cancer Control Program, Bureau of State Services in the Public Health Service, and (3) Missouri Division of American Cancer Society.

The estimated cost is $5.00 per case per year including cost of computer service. $3.00 per case per year is the estimated follow-up cost. Estimate of new case load was stated as being a maximum 15,000 per year in Missouri with the estimated cost of $75,000 to $100,000. Presently organized cancer registries are seeing about 5,000 new cases per year at an approximate cost of $25,000 to $50,000. The cooperating registry directors were encouraged to work jointly in the solicitation of funds to be expended individually.

Following a discussion, the Committee approved suggestions presented by Dr. Spratt as follows: (1) Approval of the forms which were devised by the Missouri Cooperative Tumor Registry Group, (2) recommendation that all tumor registries in the state adopt the forms, and (3) recommendation that Missouri Division of Health explore methods of providing logistic and financial support to registries.

Dr. Spratt offered to prepare an up-to-date report on the progress made by the Missouri Cooperative Tumor Registry Group for possible publication in MISSOURI MEDICINE. The report will include pilot experience of the participating registries. It was stated that registries at the University of Missouri and Jewish Hospital in St. Louis have experience of note to report using the form described above. Ellis Fischel Registry program begins January 1, 1966. It was reported that registry in Poplar Bluff Hospital sees about 80 to 100 cases yearly and Barnes Hospital in St. Louis approximately 2,000 yearly. These are the two extremes of size.

Osteopathic Hospitals have expressed interest in the registry program and plan to participate.

John E. Lamy, Chairman
E. J. Schewe
Joseph L. Fisher
J. Martyn Schattyn
James R. McVay, Jr.
Harvey R. Butcher, Jr.
Fred B. Coller
G. Neil Berry

REPORT OF THE COMMITTEE ON MATERNAL WELFARE

The Committee met on November 14, 1965. Dr. D. M. Love, Missouri Division of Health, Jefferson City, represented the Division at this meeting.

The Committee discussed ways and means to disseminate current information on Maternal Welfare studies including causes of maternal deaths. Dr. Seymour Monat of St. Louis, reporting for the eastern part of Missouri, stated that so far this year 20 maternal deaths had been reported and were being studied by the Eastern Committee. Dr. Robert Slickman of Kansas City, reporting for the western part of the state, stated that for the same period 11 had been reported and were being studied by the Western Committee.

Reference was made to an offer a few years ago by the Missouri Association of Pathologists to perform postmortems for maternal deaths on a 24-hour service basis. This information was published in MISSOURI MEDICINE. It was agreed that Dr. Trueblood would inquire of the pathologists as to whether or not this service is still available.

Discussion followed which included the need for good cooperation between the medical profession at large and the committee's sponsored physician in investigating maternal deaths.

The Committee voted to recommend that summaries of cases discussed at meetings of the Eastern Committee be mailed by Dr. Monat to members of the St. Louis Ob-Gyn Society for educational purposes, and that these reports be referred to the Editor of MISSOURI MEDICINE for possible publication.

It was agreed also that Dr. Monat would contact Dr. Joseph Finnegan, Editor of MISSOURI MEDICINE, to discuss the submission of specific maternal death case studies for review and possible publication. These studies would be published as information and education regarding Maternal Welfare. Discussion followed regarding similar publication in the Missouri Academy of General Practice publication, *Missouri Family Doctor.*

Dr. Slickman agreed to prepare the Committee's annual statistical report for submission at the Committee's luncheon during MSMA's 108th Annual Session, Monday, March 28, 1966. A case report will also be prepared and presented by Dr. Slickman, using the Committee sponsored MSMA speaker for discussion.

The Committee discussed a request from the MSMA Annual Session Program Committee for a speaker to discuss "What's New in Ob-Gyn," during a panel presentation at 8:30 a.m. on Monday, March 28. It was agreed that the Chairman would contact Dr. Brookes Ranney of Yankton, South Dakota, and invite him to be the Committee's sponsored speaker. (Dr. Ranney has accepted the Committee's invitation.)

Dr. Love reported that in the implementation of the new PKU law the Division of Health found existing medical care programs varied according to areas. The Division mailed a copy of the new law to all physicians in Missouri and asked for suggestions on members of a select committee which might help draft the regulations. New legal requirements place the responsibility for PKU testing of the child on the parents. However, Dr. Love stated, the Division of Health is asking physicians to inform the parents of the regulations under this new law.

Dr. Love explained that federal matching funds are available to provide care for outstate "Maternal and Infant Care—High Risk Mothers." In the discussion which followed, attention was called to a report that St. Louis infant death rate is one of the highest in the nation. Dr. Love reported that federal funds under the existing laws provide $3.00 to match every dollar of state funds for such a program. Opinions of those present varied regarding a program so organized and financed. No action was taken on this matter.

A. C. Trueblood, Chairman
H. C. Willumsen
William B. See
James E. Keeler
Irwin T. Craig
C. G. Stauffacher
Edward M. Grim
MacDonald Bonebrake
E. E. Wadlow
Paul E. Kratz
Eugene G. Hamilton

LYMAN D. BROWN
ROBERT S. BROWN
SEYMOUR MONAT
LEONARD A. WALL

REPORT OF THE COMMITTEE ON INFANT AND CHILD CARE

The Committee met January 9, 1966.

Dr. Magness reported on the Tenth National Conference on Physicians and Schools. (Copy of complete report is filed in the Executive Office.) It was stated that "the need of youth to have access to accurate information on crucial problems such as drug addiction, use of alcohol, sex education and venereal disease" and methods of implementing effective health education programs were the major concern of the Conference.

Following a detailed discussion on the need for health courses in the schools, the Committee voted to recommend that MSMA urge and provide strong support for introduction of a "required" course in Health, taught by qualified instructors, in all high schools in Missouri. Such a course should be officially included in high school curriculum; and Public School Commissioner, Hubert Wheeler, and all other high school administrative officials with responsibility for curricula should be advised of the Association's position.

It was suggested that a news release be prepared covering the Tenth National Conference on Physicians and Schools disseminating information stated above in order to enlist public support for the training of health instructors and concurrently creating a public demand for such health programs and teachers.

Attention was called to symbols or insignia which identify a state medical association and which are used in sponsoring information and educational programs for the general public. Examples were noted in: (1) Illinois State Medical Society's "Dr. Sims," a composite picture of the average, kind, understanding doctor, (2) Kansas State Medical Society where the Medical Society School Health Committee surveyed public interest in sex education programs, and (3) Wisconsin State Medical Society which supported a project for reviewing material (films, filmstrips, pamphlets, textbooks, etc.) available for teaching health. After such material was classified and catalogued with a concise description of each item, it was put into booklet form for distribution. It was agreed by the Committee that the MSMA should consider and develop some project—not necessarily a "Dr. Sims," a family life or sex education program or an appraisal of health teaching material—which would have a real public relations value and effectiveness as far as improving the image of the medical profession. It was the feeling of the Committee that certainly the matter of health and health teaching to school children might be a subject for consideration.

Dr. D. M. Love, representing the Missouri Division of Health, reported on results to date of PKU testing under the new Missouri law, H.B. 55. Contact with hospitals indicated that problems in the implementation of the law include early departure from the hospital which prevents proper prescribed testing of the newborn. An information pamphlet is being distributed by the Division at the request of hospital personnel for information of employees classified as non-physician and non-nurses. Dr. Love, reporting on newborn deliveries in the hos-

More than 300 physicians, their wives and guests gather in the Grand Ballroom of the Muehlebach Hotel in Kansas City for the 1966 Presidents' Banquet and to hear Missouri Governor Warren E. Hearnes deliver the address of the evening.

When
thiazide
or
reserpine
alone
won't
keep

BLOO
PRES
SURE
DOWN

Establish and maintain early, more decisive control of blood pressure

DIUTENSEN®-R

Cryptenamine 1.0 mg.* Methyclothiazide 2.5 mg. Reserpine 0.1 mg.

When blood pressure won't stay down despite initial therapy—when complaints of headache, fatigue or dizziness are often voiced—it may be time for a change to DIUTENSEN-R.

DIUTENSEN-R is thiazide and reserpine *plus* cryptenamine—a rational, comprehensive therapy to help establish and maintain early, more decisive control of blood pressure.

The cryptenamine in DIUTENSEN-R helps improve normal vasodilating reflexes while the thiazide and reserpine components maintain vasorelaxant, sedative, and saluretic benefits. Cryptenamine lowers pressoreceptor reflex thresholds (which may be abnormally high in hypertension)—"resets" pressoreceptors to function at more nearly normotensive levels.

Early, more decisive control with DIUTENSEN-R helps secure continuing benefits — may reduce or even obviate the need for poorly tolerated drugs later in therapy.

"...quite apart from the problem of vascular damage, there arises a possibility of virtual 'cure' or remission of hypertension when treatment is early, i.e., before too many other secondary pressor systems have entered into the disequilibrium of pressor control, and when it is adequately suppressive."

Corcoran, A. C.: The choice of drugs in the treatment of hypertension. In: Drugs of Choice 1966-67, W. Modell, Ed., St. Louis, C. V. Mosby Company, 1966, p. 417.

Indications: DIUTENSEN-R may be employed in all grades of essential hypertension. **Dosages:** Usual dose is 1 tablet twice daily, at morning and evening meals. However, adjustment of dosage to suit individual circumstances may be required. Please refer to package insert for full particulars. **Side effects and precautions:** The side effects observed with patients on DIUTENSEN-R have been of a mild and nonlimiting nature. These include occasional urinary frequency, nocturia, nasal congestion, muscle cramps, skin rash, joint pains due to gout symptoms and nausea and dizziness which have been reported for the individual components. Most of these symptoms disappear while the drug is continued at the same or lower dosage level. The concomitant use of digitalis and DIUTENSEN-R may increase the possibility of digitalis-like intoxication. If there is evidence of myocardial irritability (extrasystoles, bigeminy or AV block), dosage of DIUTENSEN-R should be reduced or discontinued. Nocturia in patients with marginal cardiac status and salt and fluid retention can be effectively controlled by limiting the time of administration to early afternoon. DIUTENSEN-R should not be used in patients with a known intolerance to reserpine. Package inserts furnish a complete summary of recommended cautions related to each of the ingredients of DIUTENSEN-R.

*As tannate salts equivalent to 130 Carotid Sinus Reflex Units.

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pitals of the state, stated that including St. Louis, St. Louis County and Kansas City approximately 40,000 specimens were received by the state laboratory out of approximately 55,000 deliveries. It must be emphasized that this does not include those tests done by private hospitals and laboratories, such as Jewish and Barnes in St. Louis and three or four of the major hospitals in Kansas City. The specimens from newborns sent to the Division laboratories alone account for 70 to 73% of the newborns delivered in the state. In 1965 of the 47,000 tests taken, 33 were found to have elevated or abnormal results. Of this number, 12 cases are still under investigation. Of the 21 with a positive Guthrie test, only three have been confirmed by further investigation.

Dr. Love will write a report for possible publication in MISSOURI MEDICINE on experiences and recommendations to date on the new H.B. 55. This report will be mailed by the Division of Health to the MSMA membership.

Dr. Austin Sharp, former acting chairman of the Department of Pediatrics of St. Louis University and head of the Mental Retardation Clinic, reported that at a recent national meeting of the top pediatric authorities, serious concern was expressed with the PKU legislation across the United States. They strongly recommended that the medical profession urge the National Association for Retarded Children to work for amendments to existing laws and regulations in order to comply with realistic medical conditions. Furthermore, those states which do not already have PKU legislation should not attempt passage of it since, in the minds of these authorities, no compulsory legislation is or was necessary.

Dr. Love called attention to the service and funds provided by the new "medicare" law through the Children's Bureau. Funds are matched by the Federal Government at the rate of $3.00 for every $1.00 of state money. The regulation is found in Section 432, Title II, page 69, and includes children's hospital, medical and dental care. Approval, if qualified, is extended through health agencies, and teaching agencies, for school and pre school children in districts which are geographically oriented with approval based on actual needs. Copies of Title II (Social Security Title V) covering the above will be provided for Committee distribution by the Division of Health.

A portion of the head table at the 1966 Presidents' Banquet. (l to r) Mrs. and Dr. Stanley S. Peterson; Mrs. Ralph W. Bohnsack, retiring President of the MSMA Auxiliary, and Doctor Bohnsack; Mrs. Richard A. Sutter, national President of the AMA Auxiliary, and Doctor Sutter; Mrs. and Dr. Charles S. Sherwin.

Following a detailed discussion on the use of Sabin and Salk vaccine for polio inoculation, the Committee agreed that recommendations for use of the two vaccines may vary depending on whether the program is a mass clinic service or an individual patient private office service.

In out-state Missouri, it was reported that as high as 40% of the population is not immunized. Efforts are being made to improve this record through education of the parents and school officials. The Committee agreed that either the Sabin or Salk methods may be used, but that Sabin is preferred.

Dr. Belden, speaking for the Division of Health, reported that recent legislation covering immunization will provide measles vaccine for use in the well-baby program, pre-school age only. Discussion followed regarding the possibility of measles vaccine activating latent tuberculosis.

A resolution, amended by the Committee on Tuberculosis at its meeting on December 5, 1965, was referred for opinion and comment of the Committee on Infant and Child Care. After review, further amendment was suggested as follows:

First resolve, line 5—"The first six months of life, and, if negative, repeat at least yearly and thereafter" should be changed to read, "age one year and age five years."

Second and third resolve regarding state legislation which reads "That, if necessary, proper state legislation be enacted," proposed that second and third resolves should be deleted in order to prevent any further control of medical care by statute—state legislation is not necessary.

Dr. Boles reported that an editorial would appear in the March 1966 issue of MISSOURI MEDICINE on the subject of Battered Child legislation.

Dr. Magness reported that suggestions have been introduced for delay in the opening of the football season in high schools in order to prevent casualties from heat exhaustion.

Copies of H.B. 188, Child Injury and H.B. 198, Clinics for Retarded Children were distributed to members present. These two new laws were enacted in the 73rd Missouri General Assembly and are effective October 13, 1965.

James A. Kinder, Chairman
E. J. Schwartz
James K. Mann
H. E. Petersen
R. J. LaDriere
Guy N. Magness
Ray B. Lewis
James J. Pascoe
Jack N. Wiles
Gerald E. Hughes
C. Read Boles
Ben H. Koon
Ernest L. Glasscock

REPORT OF THE COMMITTEE ON MENTAL HEALTH

The Committee has been active throughout the year. We have had several meetings of the Committee as a whole. In addition, a subcommittee to meet with the Missouri Psychological Association has been appointed and is meeting with this group, discussing the Psychologist Certification Bill which was introduced but not approved in the 1965 session of the Missouri General Assembly. It is anticipated that another bill will be presented in 1967. It is hoped that through our discussions we can come to a better understanding with the psychologist in regards to this legislative endeavor and the wording of the bill. The subcommittee is headed by Dr. James N. Haddock with representation from St. Louis, Kansas City, Springfield and Jefferson City.

The Committee is also keeping in close touch with the rapidly developing Federal and State programs. Public Law 88-164, the Community Mental Health Center Construction Act of 1963, has now become a part of the overall State Mental Health Plan, as it has in each of the 50 states. It is administered by the Division of Mental Diseases.

In addition, Public Law 89-105 permits the Federal Government to participate in the staffing of these community mental health centers if they meet the proper requirements. Information regarding community mental health center construction and staffing can be obtained through the Division of Mental Diseases in Jefferson City. A close liaison has been maintained with the Division.

Monies for mental health center construction may be applied for in much the same way as the Hill-Burton Funds and must be approved by an advisory committee which has been appointed by the Governor and meets at regular intervals. A community mental health center, in order to qualify for funds, must provide certain "comprehensive mental health services." The minimum essential elements required are: inpatient services; outpatient services; partial hospitalization services which must include at least day care facilities; emergency services provided 24 hours per day and available within at least one of the first three services listed above; and, finally, consultant and educational services. In order to qualify a community must have a population of not less than 75,000 and not more than 150,000. Because of the rapid growth of community mental health services and the need to keep local county medical societies informed, we are asking that each medical society in Missouri designate at least one member as a mental health representative; in larger societies, there are already mental health committees. We anticipate channeling to the designated members of the county societies pertinent mental health information as it becomes available.

HENRY V. GUHLEMAN, Chairman
GEORGE W. FORMAN
JAMES N. HADDOCK
ROBERT D. BROOKES
D. R. EDWARDS
WILLIAM F. CLARY
PAUL L. BARONE
EDWARD T. AUER
ROBERT S. TERRILL
JOSEPH B. KENDIS

REPORT OF THE COMMITTEE ON CONSTITUTION AND BY-LAWS

At the 1965 Annual Session, the President, Leonard T. Furlow, M.D., recommended that the immediate Past President of MSMA serve as a member of the Council for the year following his term of office as President.

Governor Warren E. Hearnes, the first chief executive of Missouri to appear before the MSMA in recent years, warns that full implementation of "medicare" will put a serious strain on the state's fiscal well-being. The Governer addressed the 1966 Presidents' Banquet.

This recommendation was approved by the Reference Committee on Constitution and By-Laws and recommended for passage by the House of Delegates. Since this proposal requires a change in the Constitution and any such proposal must lie on the table for one year before final action is taken, the following amendment will be presented at the coming Annual Session for final action by the House.

"Amend Constitution, 1965, Revision, Page 3, Article V, line 7, after the comma following the words President-Elect by inserting the following words: 'immediate Past President,'."

At the 1965 Annual Session the House of Delegates approved a resolution creating a Committee on Legislative Matters. To activate this action of the House, an amendment to the By-Laws is necessary. The following two amendments are therefore submitted for action of the 1966 House of Delegates:

Amend Chapter VII, Sec. 2, Page 8, By-Laws, 1965 Revision, after "A Committee on Public Service," by adding the following: "A Committee on Legislative Matters."

And, further amend Chapter VII, Sec. 2, Page 9, immediately before Sec. 3, by adding the following: "The Committee on Legislative Matters shall consist of five members of the Association, appointed annually by the President. The Committee shall consider legislative matters affecting the practice of medicine and public health and shall make recommendations to the Council and the House of Delegates."

The Committee also submits two additional resolutions pertaining to changes in the By-Laws of the Association.

A Key Site of Action of the Protoveratrine A in Salutensin

"The main function of the carotid sinus is regulation of the blood pressure. . . ."[1]

The veratrum component of Salutensin acts here (and in the myocardium), initiating "...a reflex fall in blood pressure through a generalized vasodilation and fall in heart rate."[2]

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BECAUSE IT ENHANCES THE BODY'S OWN MECHANISMS FOR REDUCING BLOOD PRESSURE

In mild to moderate hypertension:
Salutensin enhances the body's own mechanisms for lowering blood pressure. The veratrum component of Salutensin acts on the carotid sinus and myocardial receptors, initiating "...a reflex fall in blood pressure through a generalized vasodilation and fall in heart rate."[2]
To achieve this reflex modification of hypertension, Salutensin utilizes protoveratrine A.
In addition, to facilitate and maintain blood pressure reduction, Salutensin incorporates reserpine and a highly effective thiazide.
In general, side effects have been reported infrequently but may include those listed in the therapeutic summary.

Simple dosage—low-cost therapy: Many patients on Salutensin respond to 1 tablet *b.i.d.* Long-term economy is assured, since dosage can frequently be lowered after initial control is established.

Available: Prescription-size bottles of 60 tablets.

References: 1. Editorial: JAMA *191*:592 (Feb. 15) 1965. 2. Meilman, E., in Moyer, J.H.: Hypertension, Philadelphia, W.B. Saunders Company, 1959, p. 395.

BRISTOL THERAPEUTIC SUMMARY
For complete information consult Official Package Circular.
Indications: Essential hypertension.
Warnings: Small-bowel lesions (obstruction, hemorrhage, perforation) have occurred during therapy with enteric-coated formulations containing potassium, with or without thiazides. Such potassium formulations should be used with Salutensin only when indicated and should be discontinued immediately if abdominal pain, distention, nausea, vomiting or gastrointestinal bleeding occurs.
Contraindications: Salutensin is contraindicated in severe depression.
Precautions: Azotemia, hypochloremia, hyponatremia, hypochloremic alkalosis and hypokalemia (especially with hepatic cirrhosis and corticosteroid therapy) may occur, particularly with pre-existing vomiting and diarrhea. Potassium loss, which may cause digitalis intoxication, responds to potassium-rich foods, potassium chloride or, if necessary, stopping therapy. Serum ammonia elevation may precipitate coma in precomatose hepatic cirrhotics. Discontinue therapy two weeks before surgery or if myocardial irritability, progressive azotemia or severe depression occur. Exercise caution with patients with peptic ulcers or renal insufficiency (if severe, Salutensin is contraindicated).
Side Effects: Hydroflumethiazide: Purpura plus or minus thrombocytopenia, hyperuricemia, leukopenia, hyperglycemia, glycosuria, malaise, weakness, dizziness, fatigue, paresthesias, muscle cramps, skin rash, epigastric distress, vomiting, diarrhea and constipation. *Reserpine:* Depression, peptic ulceration, diarrhea, Parkinsonism, nasal stuffiness, dryness of the mouth and, with overdosage, agitation, insomnia and nightmares. *Protoveratrine A:* Nausea, vomiting, cardiac arrhythmia, prostration, excessive hypotension and bradycardia. (Treat bradycardia with atropine and hypotension with vasopressors.)
Usual Dose: 1 tablet *b.i.d.*

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BRISTOL LABORATORIES
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Syracuse, New York

Salutensin®

Each tablet contains:
protoveratrine A, 0.2 mg.;
hydroflumethiazide, 50 mg.;
reserpine, 0.125 mg.

Both of these have been approved by the Council for action of the House of Delegates:

RESOLUTION #1 RE: ANNUAL DUES

Resolved, That Chapter VIII, Section 1 (a) page 10, of the By-Laws, 1965 Revision, line 2, be amended as follows:

Strike out the figures in line 2, $42.50 and insert in lieu thereof, the figures $52.50.

RESOLUTION #2 RE: ASSOCIATE MEMBERS ON STANDING COMMITTEES

Resolved, That Chapter VII, page 9, By-Laws, 1965 Revision, be amended by adding a new section, immediately following Section 3, on page 9, to be known as Section 4 and reading as follows:

Sec. 4. Associate members may be appointed to standing committees when deemed advisable. The term of such members shall be for one year.

W. A. BLOOM, Chairman
DONALD M. DOWELL
R. O. MUETHER
KENNETH C. HOLLWEG
JAMES R. MEADOR

REPORT OF THE COMMITTEE ON CONTROL OF VENEREAL DISEASE

The Committee met on October 29, 1965. At this meeting several items were discussed: (1) The AMA campaign against rising Venereal Disease, (2) The report by the Venereal Disease section of the Missouri Division of Health, (3) The report from the Publicity Director of the St. Louis office of the Division of Health, and (4) Discussion of the problem of public education on venereal disease.

The Committee was pleased that the AMA is taking an active role in the publicity campaign against venereal disease. The primary aim of this program is to acquaint the public with the nature of venereal disease and to encourage people to seek prompt treatment if a venereal disease infection is suspected.

The most significant feature in the report from the Missouri Division of Health was that 97 of 99 cases of lues reported by private physicians were interviewed, which is the best report on record to date. The reporting system is functioning well—63% of the total cases of syphilis were reported by private physicians and 40% of the cases of primary syphilis. It was, therefore, the feeling of the Committee that the maximum effort had been reached by the physicians of the state of Missouri and the Division of Health and that any further reduction in the incidence of venereal disease would have to come as a result of education of the public. This discussion resulted in a resolution being submitted to and approved by the Council, as follows:

Resolved, That the Missouri State Medical Association Committee on Control of Venereal Disease approve and strongly endorse any and all educational programs that will enlighten the citizens of the state of Missouri as to the dangers of venereal disease. The Committee suggests also that efforts be made as soon as possible to attain educational outlets, using the media of radio, television and the press. The Committee earnestly hopes that the school boards and Parent-Teachers Associations permit the use of the instruction manual, *An Introduction to Syphilis and Gonorrhea,* by school teaching personnel in an effort to educate and inform our youth in all segments of the population regarding the dangers and consequences of these diseases. The Committee recommends to all local component medical societies that they implement all such educational efforts in their own communities.

The Committee also urged that the Missouri Division of Health arrange a booth at the Missouri State Medical Association Annual Session.

Dr. Arthur Neilson suggested, and the Committee approved, that the University of Missouri Department of Journalism be informed of the venereal disease control problems that confront the physicians of the state and that they be asked to help prepare editorial releases and television and radio material which could be used in the campaign against these diseases. Dr. Neilson has made this contact and has received encouraging replies in this regard. It is the feeling of the Committee that it would be well if these efforts by the journalism students at the University of Missouri would be published in the local papers throughout the state. This effort could be augmented through the local county medical societies.

St. Louis newspapers and radio stations, with the aid of the Missouri Division of Health, have been doing an excellent job of publicizing the problems and dangers of venereal disease.

Dr. E. M. Powell, representing this Committee, attended the AMA Symposium on Venereal Disease Control, November 20, 1965. Basically, it was gratifying to be able to compare our efforts with those of the other state societies and have demonstrated how effectively our Association and our state Division of Health have realized and met these problems. The two most important aspects of this meeting were that the AMA can create a helpful climate for the local health departments and organized medicine, and the AMA will make every effort to maintain this interest over a long period of time. The difficulty of maintaining interest for a sustained period of time has been the most serious problem facing the Committee on Control of Venereal Disease. Secondly, a lack of an answer from this group concerning the methods of teaching in the schools further enhanced the impression that our resolution regarding educational programs has to be the logical and practical solution.

EDWIN M. POWELL, Chairman
A. E. BELDEN
A. W. NEILSON
ROBERT B. BRISTOW
T. E. MCMILLAN
M. RICHARD CARLIN

REPORT OF THE COMMITTEE ON EYE HEALTH

The Committee has been active in several areas during the past year. The 1965 session of the Missouri General Assembly enacted a new law (HB 135) which requires motorists to pass a vision test in order to obtain a driver's license. Committee members worked with the state Department of Revenue in preparing the regulations and forms which are needed to implement the new law. State officials appeared to appreciate the suggestions, and the Chairman has been authorized to appoint a special subcommittee which would be available for further consultation with the Department of Revenue or the Division of Health.

The problem involving relationships between the medical profession, the optometrists and the opticians has been dormant. The opticians apparently have taken no further action toward a law suit which might clarify their jurisdiction and rights in the fitting of contact lenses. Your Committee recommends that MSMA initiate an effort to amend the state law to resolve this question.

It is also recommended that legislation be sought to define the practice limitations of *all* paramedical personnel.

The Committee rejected an invitation for a conference with representatives of the Missouri Optometric Association. It was the consensus that nothing could be accomplished by such a meeting.

The Chairman was among those physicians attending the meeting of the American Association of Opthalmologists (formerly the National Medical Foundation for Eye Care) which was held in Chicago. A full report is on file in the Executive Office.

The Committee recommends that MSMA, when preparing guidelines for "utilization review" under PL 89-97, consider placing ophthalmologists on review committees wherever possible. It is the feeling of the Committee that all specialties on any given hospital's medical staff should be represented on the utilization review committee.

The Committee has decided to try an experiment which other MSMA Committees may find of interest. Traditionally, Committee meetings have been held on week-ends. This year the Chairman has been authorized to set the meeting date on a week day, far enough in advance so members can arrange their professional schedules. In those years when the Missouri General Assembly is in session, the Committee would meet early enough to consider pieces of pending legislation.

Flavius G. Pernoud, Chairman
Paul M. Beck
John A. Buesseler
Paul G. Wolff
Dick H. Underwood
John R. Rufe
S. Albert Hanser
D. E. Eggleston
John D. Maddox
George Mandler
James H. Bryan
Bill G. Prater

REPORT OF THE COMMITTEE ON DIABETES MELLITUS

In 1964-65 the Committee on Diabetes sent a brief questionnaire to 52 county medical societies, and it was apparent from the results that there has not been enough effort in stressing early detection of diabetes and in promoting educational programs in the State.

At the March 1965 meeting of the Missouri State Diabetes Association the members thought that a questionnaire should be sent to various Extension Clubs in Missouri. Dr. William Allen, formerly of the Division of Health, formulated a Diabetes Detection Survey Questionnaire which has been sent to 1,500 Clubs. More than 360 of these forms have been returned, but the final results of the survey have not been completed at this time.

It is hoped that we can use the information from the medical societies' questionnaire and the result from the questionnaire to the Extension Clubs to promote further diabetes detection surveys and educational programs.

It has always been the belief that detection surveys should be initiated and managed by the physicians of the various local medical societies.

Harold K. Roberts, Chairman
Lucien W. Ide
H. E. Oppenheimer
Thomas W. Burns
John K. Caldwell
William H. Olmstead
Harold H. Lurie
Edward S. Jones
Charles F. Wilson

REPORT OF THE COMMITTEE ON LABORATORY MEDICINE

The Committee met on October 16, 1965. The meeting was called to discuss the changes in contractual relations between pathologists and hospitals in the implementation of PL 89-97, "medicare."

The position of the College of American Pathologists concerning direct billing of patients by pathologists was discussed at some length. It was noted that the AMA is also on record of approving direct billing of patients by pathologists.

It was agreed that the Committee acting together with the Committees on Anesthesiology and Radiology, introduce a resolution at the next Annual Session of MSMA calling for the endorsement by the Association of the principle of direct billing of patients by pathologists, radiologists, anesthesiologists and physiatrists. This resolution would expand a previous MSMA resolution concerning billing for laboratory charges. The proposed resolution would also formalize the recognition that clinical pathology is the practice of medicine.

It was decided to invite members of the Missouri Societies of Radiologists and Anesthesiologists to the forthcoming workshop in "medicare" to be held by the Missouri Society of Pathologists in Columbia, November 6, 1965. Close liaison between the radiologists and pathologists is necessary in solving the many problems as-

Five Missouri physicians who were present to receive their 50-year pins at the 1966 Annual Session. (l to r) Solon E. Haynes of Kansas City; William R. Jackson of Kansas City; Solomon S. Tarson of Overland Park, Kansas; Harry Yoskit of Festus; and James O. Peeler of St. Louis. Fifteen other MSMA members who had completed 50 years in medical practice were not present to be honored.

sociated with "medicare" and contractural relations between hospitals and these specialty groups.

VINCENT PERNA, Chairman
WILLIAM MCPHEE
JAMES G. BRIDGENS
DAVID F. GORELICK
T. J. COOPER

REPORT OF THE COMMITTEE ON DISASTER MEDICAL CARE AND NATIONAL DEFENSE

The Committee held no formal meeting in the past year.

A degree of cooperation by physicians has been realized as evidenced by the number of trainees in Medical Self Help programs. At the present time the number is about 75,000.

The Committee Chairman participated in a Packaged Emergency Hospital demonstration at West Plains. A proposed program was discussed with a group in Springfield, regarding relocation of the Packaged Emergency Hospital (which was later relocated) and the possibility of a multi-hospital exercise.

A proposed agenda for a one-day course in and with the University Medical Center was submitted. This project was intended primarily to point up the combined responsibility and need for consultation between hospitals, medical societies and local defense agencies. The agenda was disapproved. To date, no further consultation or communication has been conducted. It is proposed that communication be re-established with the idea of bringing disaster medical care to the students.

It is recommended that the AMA County Medical Society Civil Defense Conference be continued on the annual basis. It is further recommended that the medical school type segment of the Conference be deleted in deference to talks by persons recently involved in disaster situations. It is further recommended that speakers from the Armed Forces, if available, be obtained; and that subject matter include all types of disaster injury including present day aspects relating to C.B.R.

It is proposed that at the next AMA Annual Session, a recommendation be made to increase membership on the American Medical Association Committee on Disaster Medical Care be adding members with actual experience in mass casualty care.

CARL D. SIEGEL, Chairman
JOHN T. CROWE
CARROLL P. HUNGATE
WILLIAM F. BELL
JOHN H. WALTERSCHEID
CURTIS H. LOHR
R. NED WHITE
GEORGE E. THOMA
GEORGE L. WATKINS
O. P. HAMPTON
J. S. SANDERS
JOHN L. MOTHERSHEAD
ROBERT R. DONLEY

REPORT OF THE COMMITTEE ON AGING

Medical economics of "medical care for the aged" have continued to be the major interest this year. Members of the Committee have been busy in this area, but the official reports of activities are included in the Reports of the Committee on Medical Economics and the Council, since this is an all-embracing problem relating not only to the aged but to all of us. We call to your attention the fact that although PL 89-97, is generally concerned with the aged, there are sections of this law which eventually may involve more children and persons under 65 years of age than it does persons over 65.

In addition, members have been concerned with the Medical Advisory Committees to the Welfare Division of the State and the Nursing Homes Advisory Committee of the State.

We were active in the AMA Regional Conferences on Aging both in Oklahoma City and Chicago, and find that though Missouri has far to go in improving the "living level," not only medical care, we are making positive improvements in this area. As usual, the doctors have been in the forefront of the planning.

It is apparent that much of the work done by the physician is unknown to the public. We need to improve our public image both at a local and state level. This is a problem which needs more attention by our Association.

STANLEY S. PETERSON, Chairman
ROBERT C. KINGSLAND
RALPH PERRY
C. THORPE RAY
ROLLA B. WRAY
ROBERT TANNER
JOHN A. GRIFFITH
JOHN W. DAAKE
J. H. SUMMERS
WM. C. CRITCHLOW
ROBERT B. BASSETT

REPORT OF THE PUBLIC SERVICE COMMITTEE

The Committee was relatively inactive during the year. Established public service programs of the Association were carried forward under the supervision of the Council, the Executive Office and other interested standing committees.

Communications were addressed to various members of Congress in connection with the debates on Medicare and Eldercare, as was a statement of the record of the Missouri State Medical Foundation in meeting the needs of Missouri students to a degree that appeared to us made Federal subsidies for medical students unnecessary.

The Council referred to the Committee for investigation the idea that the formation of a Missouri Association of the Professions would result in benefits to organized medicine by providing a means for cooperative action for the advancement of professional ideals and the promotion of professional welfare. Such associations are functioning in other states, including Michigan, Illinois and North Carolina. An American Association of the Professions has been incorporated.

The Committee met on January 16, 1966, to consider whether MSMA might actively sponsor the formation of such an interprofessional group in Missouri. A Missouri Association of the Professions might include architects, engineers, pharmacists, veterinarians and lawyers, as well as physicians. After extensive discussion, the Committee concluded that the matter required further study and that additional information should be obtained to determine what the potential strength and effectiveness of such an organization in Missouri might realistically be expected to be. The Committee will continue to consider the matter and will discuss it further when additional information is received.

Though the Committee did not, as noted above, directly supervise the full range of activities that fall within a broad definition of public service programs, it continued to have nominal responsibility for the budget in this regard. Total expenditures for 1965 were $14,151.39. This figure includes all fees paid to MSMA's public relations agency.

DAVID N. KERR, Chairman
PAUL R. WHITENER
BYRON M. STUART
ARMAND E. BRODEUR
FRED L. WOMMACK

REPORT OF THE COMMITTEE ON TUBERCULOSIS (SPECIAL)

The Committee during 1965 analyzed and amended the resolution regarding tuberculosis testing of infants and pre-school age children. This resolution was referred to the Tuberculosis Committee by the House of Delegates at the 107th Annual Session. It was introduced by Dr. Thomas Macdonnell of Marshfield.

The amended resolution was submitted, for opinion, to the Committee on Infant and Child Care which met January 9, 1966. That Committee suggested further amendments to the resolution, and copies of its proposed amendments were sent to each member of the Tuberculosis Committee for comment with the understanding that failure to reply means acceptance.

Since that time, a release from the American Academy of Pediatrics dated January 3, 1966—"Children Should Be Tested Early for TB"—has been called to the attention of your Chairman. The release is as follows:

"The American Academy of Pediatrics and the American College of Chest Physicians have recommended that all children between the ages of 6 to 12 months of age be tested for tuberculosis. The test should be given, if possible, before the child has been vaccinated against measles or smallpox. The recommendations of the two organizations were made in a joint-committee statement appearing in the current (Jan. 1) issue of the AAP's *News Letter*. The Committee emphasized that the tuberculin test should be 'repeated annually up to four years of age and thereafter every two years, depending on the risk of exposure of the child and the prevalence of tuberculosis in the population group.' The Committee noted that early treatment of tuberculosis with the drug, isoniazid, has been especially effective in young children. In an earlier statement, the two organizations urged their members and other groups of physicians including obstetricians, general practitioners and health officers to 'join in the nationwide endeavor to protect children against the hazards of tuberculosis.' The statement noted that children infected with tuberculosis should be 'treated with well-known methods to prevent them from developing tuberculosis complications during childhood.' The statement indicated that such testing and treatment would 'speed up' the elimination of tuberculosis, and that 'all necessary procedures are now available to accomplish this goal.' Tuberculosis annually infects approximately 20-million people throughout the world, re-

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WESTERN MISSOURI OFFICE: Robert E. McCurdy, Representative
702 V.F.W. Building, 406 West 34th Street, Kansas City, Missouri 64111
Telephone: 816-561-1498

sulting in death for some 3-million people each year. The American Academy of Pediatrics, with headquarters in Evanston, Ill., is the Pan-American association of physicians certified in the care of infants, children and adolescents. The Academy has more than 9,100 members in the U. S., Canada, and Latin America."

It is considered best that this release be called to the attention of the full membership of the Infant and Child Care Committee and the Tuberculosis Committee before the adoption of a final statement on tuberculin testing of infants and children.

The Committee reviewed the report of its sub-committee on Re-examination X-rays for Patients Discharged from Missouri State Tuberculosis Sanatorium, dated February 7, 1965. The sub-committee report was accepted with amendments as shown below. Committee agreed that the information shown below, if approved by the Council, should be sent to the Missouri State Radiological Society for information of its members.

Part I—Local voluntary tuberculosis associations may budget funds to be limited to diagnostic X-rays covering basic technical services and materials only—14″ x 17″ X-rays. Such funds should be allocated only when other sources of payment are not available. First, tuberculin test should be done. Reactors should be X-rayed.

Part II—Household and other close contacts to diagnosed tuberculosis cases must be checked. First, tuberculin test should be done. Reactors should be X-rayed.

Part III—It is recommended that doctors and hospitals make every effort to maintain minimal charges for surveillance X-rays of medically indigent ex-sanatorium patients.

The full Committee received a report mailed December 15, 1964 from the sub-committee to Study Problems of Out-State Medically Indigent, Tuberculosis Care. This problem was solved primarily by enactment of House Bill 188, effective October 13, 1965. The Missouri Legislature in this enactment increased the per diem payment from state funds for tuberculosis care from $2.50 per diem to $10.00 or a total cost monthly of $300.00. The full Committee accepted the report of the sub-committee which was discharged.

The Committee reviewed the proposed guidelines prepared by Dr. Sheldon Beecher and designed for distribution to physicians rendering tuberculosis care. The two-page guide as proposed, contains a list of 22 recommendations for care of a tuberculosis patient. The Committee recommended revisions of certain recommendations, and the Chairman appointed a sub-committee to conduct a complete review of the guidelines.

Florence E. MacInnis, Chairman
Paul Murphy
Joseph L. Lucido
Walter C. Gray
David N. Kerr
John W. Polk
Sheldon B. Beecher
Judson I. Chalkley

REPORT OF THE COMMITTEE ON RURAL MEDICAL SERVICE (SPECIAL)

The Committee met on January 23, 1966.

Dr. William Allen of the University of Missouri Medical Center gave a statistical report on M.U. Medical School graduates, their location and types of practice. He reported that there are now 466 graduates of the medical school, 247 of whom have been out of school long enough to list themselves as being in the private practice of medicine. Two hundred eight of these gave Missouri as their address. However, this includes those in residency and those using a Missouri address while serving in the military services. Sixty-two of these graduates are in General Practice, and 40 of them have located in Missouri. Thirty-five graduates are practicing in towns of 5,000 or less population and five are practicing in towns having populations of 5,000-10,000.

Dr. Sherwood Baker, Director of Preceptorship Training and Associate Professor of the Medical School, discussed preceptorship medical training. He stated that 25 medical schools now have preceptorship programs, many of which are offered as electives. The preceptorship program at the University of Missouri is now mandatory. Missouri's program has been quite successful to date and several other medical schools, both within and outside the state, have shown interest and made inquiry into the program. The Committee commends to the Association the very fine preceptorship program and the very tangible results which have already accrued to rural Missouri at this early date. The Committee congratulates the entire medical school faculty on this outstanding program, and in particular, Dean Vernon Wilson and Dr. Sherwood Baker. The Committee believes that this represents rural Missouri's single best source of meeting its medical manpower needs in the foreseeable future. The Committee offered "any assistance that might be helpful to the Missouri preceptorship program." Since strong faculty support will ultimately be the keystone for the success of a preceptorship program, members of the Committee felt that a closer liaison between faculty members and practicing physicians in the state would be desirable, particularly as it relates to the preceptorship program. While the Committee did not offer specific recommendations for such, it encouraged further study of devices and mechanisms to implement this idea.

The Committee also discussed another possible source of medical manpower for rural Missouri. It was felt that there are possibly quite a number of physicians in overcrowded metropolitan areas who, given the opportunity, might like to consider practice in a small rural community. However, probably many of these physicians have not been doing a practice of a general type which would be required of a physician in a small area. Therefore, the Committee suggests the possibility of setting up, perhaps in conjunction with the Academy of General Practice and with the assistance of the Medical School, some type of refresher course that would be available to assist physicians in this category who might desire to re-locate.

The Committee again considered the desirability for development of a long-range program to upgrade and refresh practicing physicians, particularly in the rural areas, with recent advances in medicine. The concept of a short term replacement of physicians in practice was again discussed. The Committee recommends continuing evaluation of this concept by MSMA.

The Committee discussed the physician military draft and noted particularly the report of Dr. Henry Allen to the MSMA Council Meeting of December 11-12, 1965. Dr. Allen is Chairman of the State Medical Advisory Committee to the State Selective Service Board. The Committee requests Association attention to the possible serious effects that the physician draft could have on the medical manpower in rural Missouri and requests action in appropriate cases where undue hardship to the community would result.

The Committee discussed the Harris Bill, H.R. 2, enacted at the Federal level, "New Federal Law Controlling Stimulant and Depressant Drugs." The Committee deplores additional paper work added to the already heavy load which the practicing physician must now keep. It encourages the concept that legal licensure of the physician to practice medicine and surgery within the various states implies proper trust of the physician to wisely use and prescribe or dispense these drugs with care. Hence, it encourages MSMA representation before proper authorities on behalf of the practicing physician, that this extra burden of paper work on the part of the physician be kept to an absolute minimum. It also encourages efforts on behalf of organized medicine to the intent that a large and unnecessary group of drugs not be added at subsequent dates to this list.

The Committee also encourages the Council to inform itself by all possible means, and subsequently the membership of the MSMA, of the various interests which may have special interest in generating further controls of this type in the medical field.

The Committee commends Dr. John I. Matthews, Chairman of the MSMA Legislative Committee, for his devotion and activity on behalf of MSMA at the legislative level.

The Committee received the report of the Missouri State Medical Foundation on its private loan program. The Committee encourages and endorses continuing support for this program. The Committee feels that the Foundation should concern itself with more publicity directed to the medical students in the state of Missouri, pointing out the advantages of a private loan program.

Material provided by the AMA was distributed on the subject of insecticides. Members discussed their experiences in their respective areas and their desirability for a program of research in both insecticides and chemical fertilizers and their potential health aspects. The Committee recommends action against any public hysteria and recognizes the importance of these agents to the great agricultural industry of the state and nation. However, it does recommend a careful and scientific evaluation of their health effects. Missouri University reports a plan for a program of insecticide research to be conducted in cooperation with local veterinarians outside Columbia.

Attention is called to the 19th National Rural Health Conference March 18-19, 1966, in Colorado Springs.

The theme of the Conference centers on communications. Organized medicine is constantly criticized because of the failure of its scientific community to communicate generally with the community at large. In this respect it was pointed out during the discussion that there are some 45,000 women members in extension groups in Missouri. This able and willing group could conceivably assist organized medicine in matters of general public health interest throughout the state. It was suggested that the Rural Health Committee or some similar committee of the MSMA might explore the possibility of this type cooperation with the Director of the Extension Services at the University of Missouri. Mention was also made of the possible desirability of contact between this group and the members of the MSMA Auxiliary. The Committee suggests that the Association give this potential area of wide communication continuing attention and study.

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Councilors Robert A. Mayer of St Louis County and David N. Kerr of St. Louis enjoy some humor during one of the convention's lighter moments. Doctor Kerr was elected Chairman of the Council.

It was suggested that local medical societies acquaint themselves and establish local information centers regarding community health resources for the purpose of better utilization of same. It was suggested that county medical society programs might include a speaker from a public health facility annually to acquaint them with types of services available. The desirability of a physician roster to supply public speakers to local lay groups was noted.

Reference is made to a resolution which was approved at the AMA Clinical Session in Philadelphia, November 28-December 1, 1965. The resolution suggested support and participation of local county medical societies in the establishment of a standard sign, and also posting of such signs, for direction of the public using limited access highways to indicate availability of a hospital for emergency use. Following the discussion, it was suggested that the symbol adopted by the AMA for medical alert might be used as a standard on the sign itself so that uniformity would be an aid to the public in their cross-country travels. It was also suggested that the sign be used to represent medical services available in the town rather than just hospital services, since many emergencies do not require hospitalization and many towns can offer medical services even though hospitals are not immediately available. Furthermore, it is felt that in the particular area medical personnel would be the most knowledgeable source concerning the nearest adequate hospital facility. It was suggested that this idea be referred to the AMA for consideration.

Finally, the Committee considered the problem of the senior citizens of the state and nation and the general social and economic approach to the problem of the aged. Since the membership of the physicians of rural Missouri largely concerns itself with a general type practice, and hence the total problems of the individual, and because the senior citizens comprise an ever increasing number of this group, the Committee felt that its comments in this respect would be in order. The Committee considers that it is the obligation of organized medicine in general, and of the individual physician in particular, to be concerned with all matters which adversely affect the health of the individual. Deterioration of the physical capabilities of the aging individual is well recognized. In many instances, however, the mental faculties, judgement and ability do not show an increasing decline, and this fact is the key to continuing survival and happiness of the individual as a total person.

The Committee deplores the present socio-economic trend which removes from the individual, almost all decision making powers and relegates him by fact and deed to the role of infancy again, or at best, to the role of the incompetent. Good medical judgement and careful observation suggests that this hastens the process of aging and the total deterioration of the individual as a person. The Committee deplores the present socio-politico-economic approach which devises a multiplicity of programs, each to perform some special function for the individual; i.e., continued and close supervision and direction of the use of his meager financial resources; relegation to this or that type dwelling or nursing home facility; supplying special drugs and/or services, rents, supplies, etc., on the basis that the individual is hence not capable of making these judgements.

The Committee does not deplore the legitimate interest of the government and the public in the senior citizen. It merely criticizes the approach currently in vogue which, from a medical standpoint, hastens and implements the deterioration of the individual which is associated with aging. The Committee emphasizes the importance of economic power and the implied sense of responsibility as being fundamental to the health, respect, happiness, dignity and continued activity of the senior citizen. This should be a point of prime medical concern.

Members of the Committee, and the Chairman in particular, strongly feel that cash subsidy payments to the senior citizen, giving him at least an income above minimal poverty levels, and implying a public and professional confidence in his continuing ability as an individual to manage his affairs, would be highly preferable to the multitude of programs which currently hasten his decline. The Committee considers this, as noted above, to be a problem of prime and increasing medical importance. It recommends that this Association and organized medicine conduct a study in depth of this problem and make such recommendations to the parent organization, the AMA, and to our local and federal government representatives as further studies and the considered judgement of the membership indicate.

The Committee also feels from its own contact at the local level with the aged and their problems that this type approach would have strong local support. Organized medicine should speak out on this vital *health* need of its senior citizens!

B. J. Bass, Chairman
J. Marshall Jung
James H. Sweiger
K. S. Latham
H. F. Hoelscher
James E. Campbell
Charles A. Worley
A. J. Graves

THE FOLLOWING COMMITTEES . . .

Had no assignments or meetings during the past year and have no formal reports to make to the House of Delegates. Many members of these Committees were busy, however, keeping informed in their area of interest, representing the Association at meetings and conferences, and assisting in arranging programs for both medical and lay groups. The Committees on Anesthesiology and Trauma are sponsoring parts of the program for this Session of MSMA; and the Committee on Medical Education and Hospitals arranged a number of programs for county medical society meetings in eastern Missouri during the year.

MEDICAL DEFENSE
MEDICAL EDUCATION AND HOSPITALS
TRAUMA
ANESTHESIOLOGY
PHYSICAL MEDICINE AND REHABILITATION
RADIOLOGY AND IONIZING RADIATION
INDUSTRIAL HEALTH (SPECIAL)
STUDY OF CARDIAC DISEASE (SPECIAL)

The Speaker noted that minutes of the Council meetings during the past year and Council recommendations were published in the handbook. He referred various matters from the Council proceedings to appropriate reference committees.

THE COUNCIL

Meeting of April 7, 1965

Paul R. Whitener, M.D., President of MSMA called the meeting to order. Those present were: Drs. Whitener; Lysle M. Bach, Hannibal; David N. Kerr, St. Louis; Robert A. Mayer, St. Louis; James C. Cope, Columbia; Rolla B. Wray, Nevada; Hector W. Benoit, Jr., Kansas City; Doyle C. McCraw, Bolivar; E. A. Stricker, St. James; W. D. English, Cardwell; Leonard T. Furlow, St. Louis; William D. Perry, St. Louis; Walter T. Gunn, St. Louis; Flavius G. Pernoud, St. Louis; Messrs. John W. Noble, Kennett; Lemoine Skinner, Ray McIntyre, Tom P. Fox, Allen D. Smith, St. Louis.

Dr. Whitener introduced Dr. James C. Cope, the new Councilor of the 5th District, who will fill the unexpired term of Dr. Byron M. Stuart, President-Elect of MSMA. He also introduced Dr. Robert A. Mayer, Clayton, who was elected Councilor of the 4th District. Dr. Lysle M. Bach, was re-elected to a full two year term as Councilor of the 2nd District. He reported that Drs. Wray, McCraw and English were re-elected Councilors from the 6th, 8th and 10th Districts respectively.

Dr. Benoit was nominated as Chairman of the Council and on motion was elected by acclamation. Dr. Benoit then took over as presiding officer. Dr. Kerr was nominated Vice Chairman, and on motion was elected by acclamation. Dr. John Matthews was nominated for Secretary, and on motion was elected by acclamation.

Dr. Benoit reported that Dr. Doyle wished to retire as Treasurer of the Association and asked for nominations for that office. On motion, Dr. Walter Gunn was elected Treasurer by acclamation. On motion of Dr. Stuart, it was agreed to send a letter of thanks to Dr. Doyle for his long and faithful service to the Association.

Mr. Noble presented a message for Dr. Matthews on Legislation stating that he had requested that the Council express Association approval of S.B. 284 by telegram to Lt. Gov. Tom Eagleton. On motion of Dr. Whitener, duly seconded, the following telegram was prepared and sent to Mr. Eagleton on behalf of the Council:

"The Missouri State Medical Association endorses Senate Committee Substitute for Senate Bill No. 284 and recommends its approval by the 73rd General Assembly. This endorsement and recommendation reflects only the opinion of the medical profession of the State of Missouri and is intended in no way to reflect or attempt to influence the positions of other professions, trades or crafts which may be affected by the proposed legislation."

Dr. Benoit called attention to the resolution presented by Dr. Dwyer of Clay County regarding ophthalmological technicians and the fitting of contact lenses, which was adopted by the House of Delegates on Wednesday morning, April 7, and which was referred by the Council to the Committee on Eye Health for further study. The resolution was discussed by many of the Councilors along with Dr. Perry, President of the State Board of Registration for the Healing Arts, Mr. Noble and Dr. Pernoud, the new chairman of the Eye Health Committee. Mr. Noble stated it was necessary to have the correct information in regard to the work of contact lens technicians before we could proceed and act according to the resolution adopted. After discussion and on motion duly seconded, the Council approved the securing of more information on current practices as they relate to the fitting of contact lenses in the State of Missouri. This information will be given to Mr. Noble who, in collaboration with the Eye Health Committee, will decide what action the Council should take, legally and otherwise, as it relates to the utilization of ophthalmological technicians by ophthalmologists in the State of Missouri.

Dr. Benoit gave a brief report of the meeting of MMPAC held on Tuesday afternoon, April 6. He reported that Dr. Ralph Perry had resigned from the Committee leaving a one year term to be filled, and that Dr. Berneil Andrews and Dr. Walter Gunn had also resigned. Dr. Furlow and Dr. Benoit both were elected as members of the MMPAC Board. He stated that a motion was passed that MMPAC would come to the Council for financial assistance on administrative costs. Mr. Skinner was asked

A portion of the head table at the 1966 Presidents' Banquet. (l to r) Dr. and Mrs. Hector W. Benoit, Jr.; Dr. and Mrs. John I. Matthews; Mrs. and Dr. Paul R. Whitener.

to send copies of the minutes of the MMPAC Board meeting to all the Councilors. Discussion followed regarding collection of MMPAC dues. It was stated that money collected in dues would not be spent on administrative costs and that two separate accounts must be maintained according to the law.

The report of the Special Committee on Reapportionment of Delegates presented to the House of Delegates was defeated on Monday. Dr. Benoit suggested that the Council may wish to consider a reevaluation of this problem with the ideas that have been brought forth on the floor of the House and possibly come forth with another recommendation which would be more satisfactory, even though no order had come forth from the House to that effect. He urged the Councilors to think about this and possibly discuss it further at the next Council meeting. On motion of Dr. Kerr, it was agreed that this matter be taken under advisement and discussed further at a later date. Dr. Whitener suggested also that the Council do nothing about this matter at this time. On motion of Dr. Stricker, duly seconded, it was agreed that the outside group get together and talk this over from their angle.

Dr. Benoit mentioned that at its December meeting the Council discussed the appointment of a Committee to discuss problems involving legislation in Jefferson City. He stated that a committee composed of Drs. Matthews, Furlow and Stuart had been appointed and expanded at the February Council meeting as a Legislative Committee. However, it was brought out that certain officers of the Association, as well as the Chairman and Vice Chairman of the Council be appointed to a new committee to be known as the Executive Committee, its primary objective being to discuss problems in Jefferson City and to act on short notice on legislative matters and any other matters which may be brought before it. It was suggested that the following persons be considered for this committee: Drs. Whitener, Stuart, Gunn, Matthews, Kerr, Benoit and Furlow. On motion of Dr. Whitener, duly seconded, it was agreed that Dr. Furlow be invited to the Council meetings—not to vote—but to discuss any matter that comes up and offer his advice and suggestions. Motion passed. On motion it was agreed that the Executive Committee be constituted, as indicated above, with Dr. Matthews as Chairman, and Dr. Benoit as Co-Chairman.

Dr. Benoit urged all the Council members to attend the AMA meeting in June if at all possible to help promote Dr. Hall's campaign for President Elect.

Dr. Benoit stated that we were faced with a continuing problem in relation to the physical location of the State Association office. He also stated that Mr. O'Brien's health is a part of the overall picture. He said each member of the Council should approach this problem as representing Missouri medicine as a whole and not just as a district. He urged each one to give serious thought to the overall problem of organizing the staff, including the location of the office and to come prepared to further discuss this problem. He suggested they bring suggestions to the group to better implement the study that the House wants. He stated that two committees have studied this problem and that the only way we could give the House the unbiased opinion it wants would be for the Councilors to work it out themselves and then act as a Committee of the whole, not a committee appointed by the Council.

The next Annual Session will be held in Kansas City, at the Muehlebach Hotel, March 27, 28, 29, 30, 1966.

It was agreed that the next Council meeting would be held on May 22, 23, 1965 in St. Louis.

Meeting of May 22, 23, 1965

Hector W. Benoit, Jr., M.D., Kansas City, Chairman, called the meeting to order. Those present were: Drs. Benoit; Joseph L. Fisher, St. Joseph; Lysle M. Bach, Hannibal; David N. Kerr, St. Louis; Robert A. Mayer, Clayton; James C. Cope, Columbia; Rolla B. Wray, Nevada; Doyle S. McCraw, Bolivar; E. A. Stricker, St. James; W. D. English, Cardwell; Paul R. Whitener, St. Louis; Byron M. Stuart, Boonville; John I. Matthews, Jefferson City; Walter T. Gunn, St. Louis; Leonard T. Furlow, St. Louis; Vernon E. Wilson, Columbia; William D. Perry, St. Louis; Douglas A. Ries, St. Louis; Messrs. John W. Noble, Kennett; Hollister Smith, St. Louis; Edgar J. Mothershead, St. Louis; Gary Schnedler, Springfield; Arthur W. Seeds, Chicago; James W. Foristel, Washington, D. C.; James Underwood, Kansas City; Lemoine Skinner, Jordan Singleton, Tom R. O'Brien, Ray McIntyre, Tom P. Fox, Allen D. Smith, St. Louis.

Present on Sunday only: Drs. Flavius G. Pernoud, Dick H. Underwood, Kansas City; Paul M. Beck, St. Joseph; James H. Bryan, Clayton; John A. Buesseler, Columbia; Paul G. Wolff, Cape Girardeau; Truman B. Schertz, North Kansas City; Kenneth M. Eblen, Vice President, Kentucky State Medical Association.

Dr. Benoit asked for approval of the Council minutes of April 4 and 7, copies of which were sent to all the Councilors after the Annual Session. On motion of Dr. Kerr, duly seconded, these minutes were approved as written.

Mr. McIntyre reported on a number of thank you letters received, one from Helen Penn thanking the Council for the resolution passed at the Annual Session and also for the portable electric typewriter which was presented to her. He read a letter of thanks received from Dr. Scrivener, who represented the President of the Illinois State Medical Society at the MSMA meeting, also a note of thanks addressed to Dr. Furlow from Mrs. Evans, President of the AMA Woman's Auxiliary and from Mrs. Sutter for the financial assistance at her forthcoming reception in New York.

He reported that the annual donation of $100 was sent to the Executive Director of the Student AMA for sustaining membership, and a note of thanks was received from them. Also a letter was received from Dr. Donovan Ward, President of the AMA, in reply to the resolution passed by the MSMA House of Delegates which was forwarded to him.

Mr. McIntyre reported that the names of the three outstanding senior medical students at Missouri's three medical schools would be received and that the annual award of a $100 U. S. Savings Bond and Certificate would be presented to them in the near future. Also, that $75.00 had been sent to the Missouri Chapter of the Student AMA to help finance sending delegates to the Chicago annual meeting.

He also reported a request from Dr. Carl Siegel, Chairman of the Civil Defense National Disaster Committee for reimbursement of the expenses of Dr. John Crowe of Cape Girardeau who appeared on the program of a two-day postgraduate course on Disaster Medical Care in Joplin on March 31 and April 1. On motion of

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Dr. Stuart, duly seconded, it was agreed to pay Dr. Crowe's expenses in the amount of $68.29.

Mr. McIntyre reported that the 10th National Conference on Physicians and Schools, sponsored by the AMA and other national organization would be held on September 23, 24 and 25 in Chicago. He explained it was customary to send one representative of the Infant and Child Care Committee to this meeting and asked the Council to authorize paying the expenses of this representative. On motion of Dr. Whitener, duly seconded, it was agreed to pay the expenses of one representative authorized by the Infant and Child Care Committee chairman to attend this meeting.

Dr. Gunn presented the Treasurer's Report, copies of which were furnished to all the Councilors and Officers. After discussion, on motion of Dr. Kerr, duly seconded, the report was approved.

Dr. Whitener presented the following report of the Committee on Medicine and Religion at the request of Dr. Kenneth Glover, the chairman, who could not be present:

It was suggested that the fundamental program, developed to date, should be offered to all county societies. Deans of the medical schools should be approached concerning inclusion in the curriculum of a course on Medicine and Religion. Attention was called to the fact that Rev. Zimmerman of Springfield offered such assistance in approaching the medical schools.

Discussion followed regarding ideas to stimulate interest. Mr. Etheridge reported on two-day statewide workshop sessions attended by representatives of each county society. In large states, two or more such meetings have been conducted. Mr. Etheridge addressed such audiences explaining the fundamentals of the medicine and religion program. It was suggested that our state committee meet in advance of any such program.

Problems of the various religions concerning cocktail hours were discussed. It was suggested that resolve any such differences of opinion, meetings could be scheduled at the breakfast hour. Attention was called again to the importance of inviting participation by all religions in the local medical society area. Some committees have met for breakfast and included a hospital tour and an explanation to the clergy of hospital admission procedure.

Mention was made again of the film, "The One Who Heals." It was reported that from a medical viewpoint, this film was viewed in St. Louis with reservations. However, the film was well received by clergy and laymen. It was suggested that local groups should decide whether or not this film is suitable.

It was agreed by those present that person to person contact is important in the development of the program on medicine and religion. It was suggested also that meetings called should include chaplains, nurses, and related hospital personnel.

Mr. Etheridge will provide materials for ring binders to be distributed to each of the 51 county societies across the state along with two pamphlets. It was agreed that a covering letter from the chairman should accompany this material which outlines programs found to be successful in other states. Again emphasis was placed on local level direction and activity. A booth was suggested for the next MSMA Annual Session, 1966, Muehlebach Hotel, Kansas City; also the possibility of a meeting of the committee on Medicine and Religion on the first day of the session.

It was suggested also that county society presidents be contacted for suggestions to develop the Medicine and Religion Program. The possibility was suggested that regular county society meetings might include a Medicine and Religion program. A final suggestion offered was a panel program to include physicians, clergymen, and lawyers explaining the present day liabilities involving, for example, blood transfusions contrary to certain religious beliefs.

Approval was requested of the Council to send the material provided by the AMA for distribution to the component County Medical Societies of MSMA. On motion of Dr. Wray, duly seconded, it was agreed that this material be sent. Several of the Councilors offered to take the material with them for some of their county societies which was done.

On motion of Dr. Kerr, duly seconded, the report of the Committee was approved.

Dr. Whitener discussed a proposal for improving continuing medical education programs which was presented to him by letter from Dr. Lester Wolcott, Chairman of the Committee for Continuing Medical Education of the University of Missouri. It was suggested that the Committee on Scientific and Postgraduate Work of MSMA be expanded to include one member from each Councilor District to work in conjunction with not only the University of Missouri but also with St. Louis University and Washington University to achieve a more effective working relationship in the field of continuing medical education. Dr. Whitener mentioned that he had taken this into consideration and had appointed several additional members to the Scientific and Postgraduate Work Committee at the time of the Annual Session. After discussion and on motion of Dr. McCraw duly seconded, it was agreed that this be referred to the Committee on Scientific and Postgraduate Work for continued study and report back to the Council.

Dr. Whitener also reported that he had attended the National Science Fair dinner at the Sheraton-Jefferson Hotel and also attended the Illinois State Medical Society Annual Session. He reported they had a very good meeting and very similar to ours with the exception that AMA Delegates and Trustees were component members of the House of Delegates of Illinois with a vote.

Dr. Benoit discussed the advisability of appointing another committee as a standing committee of the Association entitled, "Committee on Specialty Medicine," which would be composed of a member from each of the specialty organizations in the State, such as, Internists, Pathologists, Radiologists, Academy of General Practice, etc. The primary purposes of the committee would be to study problems relating to the insurance industry, special types of legislation involving one or two specialties, etc., and to make recommendations to the Council. It was brought out that this would require a By-Laws change; however, it was also pointed out that this type of committee could bring to the Council the thinking and reactions of a good many more doctors in the state as to problems in their specialty. Names could be submitted by the President of each of the specialty groups for consideration as to possible appointment to this committee. After discussion and on motion of Dr. McCraw, duly seconded, it was agreed that the chairman invite members of different specialty groups to the next Council meeting to discuss this in more detail.

Mr. O'Brien presented the following statement to the Council on the advice of his physician:

"Mr. Chairman, Members of the Council:

For more than 20 years the Missouri State Medical Association has been my life. I state this simply as a fact. The program of the Association, the people of the Association, the problems of medicine in Missouri have filled my mind and have taken all the energy and effort of which I was capable.

It is now going to be necessary for me to adapt myself to a new life. My doctor has told me that I can no longer continue as Executive Secretary of MSMA, and I have no choice but to do as he tells me.

It is with deep regret and a profound sense of loss that I submit my resignation to be effective at your pleasure. You, the members of the Council, more than any others in the Association, appreciate just how hard it is for me to take this step.

I shall continue to serve as Executive Director of Blue Shield and shall, accordingly, be able to maintain my close contacts with the medical profession.

I cannot leave the Association without expressing my thanks and gratitude to the members of our staff, particularly to Ray McIntyre, Bert Thomas and Lemoine Skinner, who have worked with me in the closest and most loyal association through the years. The newer members of the staff are making increasingly valuable contributions and will, I know, be a strong part of the organization nucleus with which you have to build.

Finally, I have to say to you, and through you to the doctors of Missouri, that I leave your active service with a sense of fulfillment, not simply because of the work I have had a part in, but also because of the rewarding personal attachments I have had with so many of you for so many years. I have loved my job. In my new situation I shall do everything I can as a friend and volunteer consultant to contribute to your planning to carry forward the big and challenging job in the years ahead."

After discussion, it was agreed that no immediate action be taken and that the Council meet in Executive Session to work out a solution which would be of mutual satisfaction to Mr. O'Brien and the State Association.

Dr. Kerr reported for the Liaison Committee on Medicine and Pharmacy and stated that each of the members of the committee, Drs. Ozar and Stanley Peterson and himself, were invited to participate in a panel discussion at a meeting of the Missouri Pharmaceutical Association held in St. Louis on April 12, at the Sheraton-Jefferson Hotel. He mentioned that this was just a start to have the Pharmaceutical Association aware of the Committee and have meetings in the future for such problems that may be of mutual concern. After discussion, on motion of Dr. Stuart, duly seconded, the report was accepted.

The resolution regarding Strokes, Heart Disease and Cancer, passed by the MSMA House of Delegates at the 1965 Annual Session was reviewed along with a Staff Report reprinted from the *JAMA*, April 26, 1965 issue, copies of which were distributed. Mr. Foristel, AMA Washington Representative, reported that Senate hearings have been held, but that the House would not hold hearings until after the June meeting of the AMA. He stated it was a rather difficult piece of legislation to consider and that no official position had been taken as yet by the AMA. The Council agreed to defer further action on the resolution pending anticipated discussion and possible action on this matter at the AMA Annual Session in June.

Dr. Kerr reported on a meeting sponsored by the Los Angeles County Medical Association held in Denver, and a proposed meeting to be held on May 30 in St. Louis at the Sheraton-Jefferson Hotel. Booklets were distributed outlining their policy regarding Federal Legislation in relation to H.R. 6675, and also in relation to the above program on Heart Disease, Cancer and Strokes. They invited the largest component medical societies in each state to come to the Denver meeting, and also to the St. Louis meeting with some additional invitations. After much discussion, it was agreed that the Los Angeles County Medical Association's meeting had nothing to do with the resolution passed by our House of Delegates, and that the Council would like to have more information on this proposed federal program on Strokes, Heart Disease and Cancer and will look to the AMA for guidance.

Dr. Douglas Ries, Chairman of the Committee on Industrial Health, reported that there was nothing further to report since the Committee report of last January. The situation is just about the same as at that time, he stated. He stated also that he planned to call a meeting of the Committee this Fall with the idea of having representation there from the insurance carriers, the legal profession, industry, and members of the Council to discuss the problem outlined in the report.

Mr. Foristel, AMA Legislative Representative, presented a report on the probable effects of the Social

ACCIDENT AND HEALTH INSURANCE

The Missouri State Medical Association since 1943 has made available to its members a Special Disability Income Benefits Policy issued by our "Loyalty Group" Companies now a part of the America Fore-Loyalty Group Insurance Companies—the largest casualty-fire underwriting group in the world. The low cost at which the policy is offered is made possible through the purchasing power of the membership of your association as a whole.
Now, new plans offering long term income benefits as well as a special Major Hospital-Nurse Expense Plan have been added to the program. We suggest you who are already enrolled make sure your policy includes the maximum benefits. Those of you not enrolled, we suggest you do so today. Call or write:

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111 North Fourth St., St. Louis 2, Mo.
(Eastern Missouri Administrators)

Altman-Singleton & Co.
114 W. 10th St., Kansas City 5, Mo.
(Western Missouri Administrators)

Security Medical Program (H.R. 6675) relating to providers, patients and others. He stated that at the Senate hearings three weeks ago, Senator Douglas of Illinois, AHA and Blue Cross filed an amendment to put the four specialty groups back in the bill under part I, as part of hospital benefits paid by hospitals. After discussion, it was agreed that a letter be written to both Senators Long and Symington asking them to go along with MSMA on eliminating compulsory Social Security coverage for physicians and keeping the services of the specialties of radiology, pathology, anesthesiology and physiatry in the present "voluntary" section of H.R. 6675. The Councilors received copies of a letter written to Senator Harry Byrd, Chairman of the Finance Committee of the Senate by Dr. Whitener registering MSMA opposition to H.R. 6675.

Mr. Allen Smith gave a brief report on the status of various pieces of legislation which concern medicine and health and which are being considered by the current session of the Missouri General Assembly. He said that 47 bills dealing either directly or indirectly with medical or health matters were introduced this year, but the Association has taken an active interest in only a few of these. Mr. Smith indicated that in general it appears that objectionable provisions have been removed from these measures and that the greatest point of concern is with two Workmen's Compensation bills which would permit chiropractors to participate and practice under the program. Efforts are continuing to properly dispose of these proposals.

Mr. Noble reported on the progress of the suit filed against the State Board of Registration for the Healing Arts by Drs. Wilson and Mitchem. After the Kansas City Court of Appeals upheld the judgment of the Circuit Court of Cole County in favor of the State Board, a motion was filed by the attorneys for Wilson for a rehearing and to transfer it to the Supreme Court. A statement of opposition to the motion has been filed. The Court will act on this motion in a week or ten days. He stated that in his opinion the final decision is just a matter of time and that the appeal will probably be turned down.

Dr. Benoit reported that at the Executive Session of the Council it was agreed to appoint Mr. Ray McIntyre as Executive Secretary of the Association, to become effective as soon as the resignation of Mr. O'Brien is formally acted upon.

Mr. McIntyre reported that we were again having problems concerning the 1966 Annual Session at the Muehlebach Hotel in Kansas City because of remodeling work scheduled to be in progress at the time of our session. He stated that we plan to have the meeting in Kansas City even though the available facilities may decrease the number of exhibit booths, some of which would not be as large as others. It is hoped that a final decision can be made very soon.

Dr. Stuart extended an invitation to the Council to hold the next Council meeting in Boonville on the weekend of October 2, 3, 1965. Facilities will be available for meeting rooms and adequate motel accommodations are reserved. On motion of Dr. Kerr, duly seconded, Dr. Stuart's invitation was accepted to hold the next Council meeting in Boonville.

Dr. Matthews reported on the meeting of the Scientific and Postgraduate Work Committee held in St. Louis on May 16. He stated that a preliminary program was developed by the Committee but is subject to numerous changes during further development. He also stated that the Committee was planning to have movies running almost continuously during the session, these to be obtained from the AMA and some of the pharmaceutical houses.

Dr. Pernoud and members of the Committee on Eye Health met with the Council to discuss the problem of ophthalmological technicians and the fitting of contact lenses. Mr. Noble reported that he had met with attorneys on April 23, as directed by the Council at its last meeting. Copies of correspondence were distributed to the Council pertaining to the results of this meeting which he stated pretty much sums up the situation. It was pointed out by Dr. Benoit that though the Council was sympathetic to the Ophthalmologists' problem and acutely aware of the implications, the Association's stand on the matter will depend to some extent on what Dr. Perry of the State Board can determine. Dr. Perry, chairman of the State Board of Registration for the Healing Arts, was asked to discuss the matter and stated that the Board would undertake an investigation if requested. On motion of Dr. Kerr, duly seconded, it was agreed that Dr. Perry be asked to proceed with this investigation and relate his findings to Dr. Benoit, Dr. Pernoud and Mr. Noble and that a meeting of the Executive Committee of the Council be called to discuss these findings, possibly by the 1st of July. Dr. Pernoud stated that the Committee on Eye Health would withhold their recommendations to the Council until further study had been made within the next month.

Dr. Benoit, in view of the problem that exists in the office regarding Mr. O'Brien and the employees pension program, appointed the following Budget Committee: Drs. Walter Gunn, Chairman; Paul Whitener, Byron Stuart, David Kerr, E. A. Stricker and Benoit. The Budget Committee was instructed to seek additional information regarding the pension program and to call a meeting of the committee as soon as such information is obtained.

A special Committee of the Council to further study the location of the office in Jefferson City was appointed by Dr. Benoit: Drs. Fisher, English, Mayer, McCraw, Benoit, chairman. On motion of Dr. Kerr, duly seconded, the above committee was approved.

Dr. Benoit stated that after the Secretaries and Presidents meeting last year, it was our expressed intention that this be done annually and that the next meeting was to be held in the Fall of 1965. He stated, however, it was his considered opinion and that of the staff that due to added pressures on the staff and the very obvious financial situation that the Presidents and Secretaries meeting not be held this year. On motion of Dr. Stuart, duly seconded, it was agreed to postpone the meeting.

Dr. Benoit introduced Dr. Kenneth M. Eblen, Vice President of the Kentucky State Medical Association. Dr. Eblen mentioned that of all the medical meetings and conventions he had attended he had never been treated more royally than at our Annual Session in April. He stated that both he and his wife were most appreciative of our hospitality. He then presented Dr. Stuart with a plaque honoring him as a Kentucky Colonel.

Dr. Ulett presented the problem facing the State Hospitals who employ foreign medical doctors under the temporary licensure act. Dr. Perry explained that temporary licenses are issued to foreign doctors who have passed the E.C.F.M.G. examination and who plan to become citizens of the USA. These licenses may be renewed each year, up to five years, after which time the licensees who have become citizens are eligible for a regular license. Dr. Ulett explained that unless some of the foreign physicians working in the State Mental Hospitals can qualify for such a license, he will lose their help by the end of June, 1965. After discussion, and on motion of Dr. Matthews, duly seconded, it was agreed that the State Board of Registration for the Healing Arts make decisions in individual cases and use their discretion as to the requirements for equivalent background and training to pass the basic ECFMG tests and that this policy be reviewed periodically over the years so that we can keep in contact with what is happening in this area.

Dr. Fisher stated that, in view of the fact that M.D. Day is held annually in the State of Missouri, sponsored by the Woman's Auxiliary, that it was proposed that this day be used as a campaign to raise more money on the part of the Auxiliary for the Missouri State Medical Foundation. Mr. Hollister Smith mentioned that a point system might be set up such as the Woman's Auxiliary has for donations to AMA-ERF. On motion of Dr. Kerr, duly seconded, it was agreed that this be referred to the Advisory Council of the Woman's Auxiliary for further study.

The Councilors reported on activities in their Districts.

As previously stated, the next meeting of the Council will be held on October 2, 3, 1965 in Boonville.

Meeting of October 2, 3, 1965

Hector W. Benoit, Jr., M.D., Kansas City, Chairman, called the meeting to order. Those present were: Drs. Benoit; Joseph L. Fisher, St. Joseph (Sunday only); Lysle M. Bach, Hannibal; David N. Kerr, St. Louis; Robert A. Mayer, Clayton; James C. Cope, Columbia; Rolla B. Wray, Nevada; Doyle C. McCraw, Bolivar; E. A. Stricker, St. James; W. D. English, Cardwell; Paul R. Whitener, St. Louis; Byron M. Stuart, Boonville; John I. Matthews, Jefferson City; Walter T. Gunn, St. Louis; Joseph V. Finnegan, St. Louis; Vernon E. Wilson, Columbia; G. W. Winn, Boonville; Mr. Philip V. Maher, Director, Office of Urban Affairs, Jefferson City; Messrs. John W. Noble, Kennett; William H. Bartleson and James Soward, Kansas City; Hollister Smith, Lemoine Skinner, Jr., Jordan Singleton, Ray McIntyre, Tom R. O'Brien and Thomas P. Fox, St. Louis.

Dr. Benoit asked for approval of the Minutes of the last Council meeting which was held on May 22, 23, 1965, copies of which were sent to all Councilors and Officers. On motion of Dr. Kerr, duly seconded, the minutes were approved as sent to the Council.

Mr. McIntyre presented the question as to whether or not physicians in fellowships should be given junior membership status similar to internship and residency training. After discussion and on motion of Dr. Kerr, duly seconded, it was agreed that physicians in training fellowships be allowed junior membership for the duration of the fellowship and recommend that the Committee on Constitution and By-Laws study this question from the standpoint of both research fellowship and "training fellowship" as to the advisability of including one or both categories under junior membership in the by-laws.

Mr. McIntyre reported that the policy for new members has been to pay only one-half dues and assessments after July 1, and in view of this policy requested the Council to authorize that the Kansas City Blood Bank Assessment levied at the 1964 House of Delegates for the year 1965 be one-half of $5.00, or $2.50 for new members after July 1. After discussion and on motion of Dr. Gunn, duly seconded it was agreed that new members be allowed to pay one-half of the Kansas City Blood Bank Assessment ($2.50) after July 1, 1965.

Mr. O'Brien presented a letter from Mr. Arthur C. Humphrey, representative of the Eggert-Carroll-Schroeder Agency in St. Louis who handles the disability group policy for the Association, stating that Mr. Humphrey received a recent letter of appreciation from an Association member for the benefits received from his insurance policy. This claim went full term, i.e., seven years of continuous total disability.

Mr. McIntyre read a letter received from Dr. J. H. Summers of Lebanon, in appreciation for the flowers sent by the Council during his illness. Dr. Wray reported that Dr. Summers is doing fine and plans to return to his office soon.

Mr. McIntyre also reported that a letter of thanks was received from the Missouri State Blood Bank Association for the check in the amount of $125.00 received from MSMA to help establish six regional workshops on basic technics in blood banking.

Dr. Benoit introduced Mr. Philip V. Maher, the Governor's Administrative Assistant for Urban Affairs and Director of the Office of Economic Opportunity in Missouri for the purpose of explaining the Neighborhood Youth Corps program which was started this past summer. He explained that the time for the health examination program was short and he thought it was sufficient to go through the Missouri Division of Health, so he did not consult with MSMA but contacted the Division of Health instead. He answered a number of questions and went on to explain about a new program that would be started this fall under the Economic Opportunity Act in which Federal money in the amount of 25-million dollars is to be spent in Missouri. He explained there were 7 titles in the act and many sub-titles. This program, he said, is designed to help those people in poverty, to offer facilities and services. In the health field, he said, there would be two major components—mobile dental units and local health services. They plan to work with the Division of Health and other local health units and also expressed the hope they could solicit the help of MSMA in future programs and would be glad to work together with us in any way possible. After much discussion, it was pointed out to Mr. Maher that the physicians would be more than glad to work with him on health programs, but it would be well if these proposed programs were submitted and discussed in advance with the physicians involved in order to avoid delay and misunderstandings.

The Treasurer's Report was presented by Dr. Gunn, copies of which were distributed to all the Councilors. On motion of Dr. McCraw, duly seconded, the report was approved as given.

It was pointed out that after the House of Delegates approved the $5.00 assessment per member for the Kansas City Blood Bank that a committee of the Council composed of Drs. Doyle, English and Benoit had been appointed to recommend as to the disbursement of such money. It was reported that the Committee had not met, but Mr. Noble had been requested to give an opinion on the means of disbursement. It was also pointed out that since Dr. Doyle resigned as Treasurer, that he should be replaced on the committee. On motion of Dr. Kerr, duly seconded, it was agreed that Dr. Gunn should replace Dr. Doyle on the committee. Mr. Noble was asked to report his opinion on the disbursement of these funds and presented the following:

DISBURSEMENT OF SPECIAL ASSESSMENT

"On March 9, 1964, a resolution was adopted by the House of Delegates assessing $5.00 per member in order to assist physicians involved as respondents in the Federal Trade Commission vs. the Kansas City Community Blood Bank and others.

"This resolution was introduced by the Jackson County Medical Society who had assessed its own membership to raise a portion of the legal fees incurred by some of its members who had been joined as respondents.

"On July 31, 1964, the Jackson County Medical Society paid from their special assessment the sum of $10,000 to the attorneys representing the physician-respondents on the fees and expenses incurred which at that time had reached a total of $43,848.

"It would appear that in the disbursement of the funds raised by the MSMA assessment in aid of the physician-respondents, the proper procedure would be the transmittal by check of said funds to the JCMS for payment to the attorneys representing the physician-respondents and that the transmittal letter to JCMS should specify that the contribution thereof as well as the payment by JCMS to said attorneys does not constitute acceptance by MSMA of any financial responsibility for any part of the obligation incurred in the defense of the said case or the representation by said attorneys of the physician-respondents."

After discussion, it was agreed, on motion of Dr. Whitener that action on this be deferred until the December meeting of the Council.

Mr. Noble reported that no further information had been recently received in regard to problems pertaining to the work of ophthalmological technicians. He stated that some study of the entire matter had been made by the Board of Healing Arts and he recommended that unless something further develops, that it would be well to let the matter ride. He suggested that the proper solution in this situation may well be through legislation. After discussion and on motion of Dr. Kerr, duly seconded, it was agreed that the Committee on Eye Health be directed to consult with Mr. Noble in drawing up a draft of legislation and have it ready for the February, 1966 meeting of the Council.

Mr. Noble reported that the Circuit Court of Appeals in Kansas City denied the application to have the Mitchum case transferred to the Supreme Court and that the case was closed.

Mr. O'Brien called attention to the Legislative Bulletin which was sent to the membership in July, following the close of the General Assembly and gave a rundown of the bills mentioned in the bulletin which was signed by the Governor.

Mr. O'Brien reviewed correspondence received from the Surgeon General in regard to the ODMC program for dependents of those in the armed services stating that in Missouri we have two fiscal administrators and because of the expense of this administration, i.e. "case costs," it was suggested that only one fiscal administrator be used hereafter. Mr. O'Brien explained that a letter had been sent to Surgical Care of Kansas City asking them if they had any objection to the St. Louis Blue Shield administering the plan. They replied they had none and fully approved. He also explained that since the contract had been extended another month to let the Council decide, it would now be necessary to extend it until December 31, in order to have time to work out certain details regarding a cut-off date, and a number of other things involved. After discussion, on motion of Dr. Wray, duly seconded, it was agreed that a letter be written to the Kansas City Plan thanking them for their services in the past and requesting the St. Louis Plan continue to cover it for the entire state at the beginning of the new contract year.

Mr. O'Brien explained to the Council that the new Social Security law provides for assistance in administration of the program by non-governmental organizations, such as Blue Shield, stating that there would be no profit to the administering organization and that it would provide for reimbursement for administrative costs only. He stated it might be possible to use the $6.00 per month under Part B of the law to purchase a contract from Blue Shield, very much the same as writing an insurance policy for someone. He stated the Blue Shield plans offer a channel for official representation of the medical profession for the operation in a day to day program. He stated that the supplementary medical insurance program of PL 89-97 states that voluntary medical insurance plans and private insurance companies may participate. The AMA on the national level has encouraged Blue Shield Plans to participate. Mr. O'Brien stated that if it is the opinion of the Council that the two Blue Shield plans in Missouri should participate in the administration of Medicare, he believes that the plans would like some official expression by the Council transmitted to HEW.

Mr. Singleton reported on the meeting he attended in Chicago on Friday, October 1, which was an orientation program in regard to Medicare. He said that those who wish to serve as intermediary and carriers in this program should make this known to HEW. HEW will take into account the recommendations or desires of State Hospital Associations and State Medical Associations and though HEW will choose, they welcome these recommendations for consideration.

Mr. O'Brien stated that both plans would want the approval of the State Medical Association, and that the St. Louis Blue Shield Plan would be willing to handle it if the doctors so desire. It was suggested and agreed that the Councilors find out the feelings of the members of their districts as to the desirability of the two Blue Shield plans in Missouri acting as fiscal agents or carriers under the new Medicare law and be ready to report this information at the December Council meeting. It was also suggested that letters be written to the Presidents of the Blue Shield plans asking if they would be interested in serving as fiscal agents for the new Medicare law.

Dr. Benoit thanked the Councilors for the time given Mr. Maher and suggested that he be invited back to the Council at some future date and have him report on future developments.

Dr. Stuart introduced Dr. Winn, his associate, whom he invited to the Council meeting as a guest.

Dr. Benoit introduced Mr. James Soward, the new Administrative Assistant at Jackson County Medical Society.

Dr. Matthews reviewed the program for the 1966 Annual Session to date and stated that the program was shaping up nicely. He stated that the Program Committee planned on presenting movies concurrently with the scientific session thus giving the physicians several choices of program to attend. He invited the Councilors to solicit films or movies to be presented on Monday and Tuesday and asked that each Councilor check the possibilities for presentation of this kind.

Dr. Benoit stated that he had received a call from Mrs. Ferris, Chairman of the local arrangements for the State Auxiliary in regard to the Sunday evening program, and a request for financial help. It was pointed out that the State Association includes in the annual budget a sum for the State Auxiliary for their annual session which does not cover a Sunday evening social program traditionally put on by local county auxiliaries. Dr. Benoit reported that Mrs. Stratemeier had suggested a subscription type dinner with a featured speaker for the purpose of promoting MMPAC. It was decided that Dr. Benoit consult with the Auxiliary, Mrs. Stratemeier, Mr. Bartleson and others in Jackson County about this situation.

Dr. Matthews reported on plans for a change in time for the Annual Session in 1967, using different hours and different days of the week. He stated the meeting could begin on Thursday night, April 6, with the opening of the House of Delegates, using Friday and Saturday, April 7, 8, for the regular scientific programs, with the House of Delegates again on Friday afternoon, concluding with a breakfast meeting on Sunday, April 9, at 7:30 a.m., thus closing the meeting in time for everyone to get to church. Discussion followed regarding starting the House of Delegates at 3:00 or 4:00 p.m. on Thursday, so that the Reference Committees could then meet at 7:00 or 7:30 p.m.

Dr. Matthews discussed the idea of having a liaison committee of MSMA with the Missouri Bar Association stating that it would be to our advantage to join with this group and possibly to meet one or two times a year to discuss items of mutual interest. He stated that the lawyers were making efforts to improve their image and that we could improve and broaden our base of operations by having a liaison committee. On motion of Dr. Matthews, duly seconded, it was agreed that the Council recommend to the House of Delegates that such a formal committee be appointed for the future.

Discussion followed regarding forming a state Committee or Association of allied professions for better liaison between such groups. After discussion and on motion of Dr. Matthews, duly seconded, it was agreed that the Public Service Committee of the Association be asked to look into this matter a little more fully and report back to the Council at its next meeting in December.

Dr. Matthews expressed the desirability of more activities to develop rapport with the legislators. He suggested inviting the Presidents and Secretaries of County Medical Societies to take the leadership through their societies and once a year or more have a meeting inviting their representatives and senators to begin with, and perhaps later extending it to include U. S. Representatives and Senators. He suggested that Ray McIntyre and Allen Smith help develop and plan such meetings and attend them if possible. He stated that he hoped over a period of time, possibly next year, that when the next session of the General Assembly meets in Jefferson City, that many more societies would know their representatives and have more personal acquaintanceship with these men. He suggested that the Councilors spread the idea of urging these meetings on a local level only and stated that eventually we might formalize this by doing it annually as part of Association business.

Councilors W. D. English of Cardwell and E. A. Stricker of St. James discuss problems of medical practice which are encountered by physicians in rural Missouri.

Dr. Matthews also reported that the Osteopathic group worked closely with us in the past legislative session and that it might be helpful if we could get together with representatives of their group to discuss activities, bills and objectives for future legislative sessions. On motion of Dr. Matthews, duly seconded, it was agreed that the Legislative Committee of MSMA get together informally with the Osteopathic group to discuss mutual problems of legislation, possibly this Fall or next Spring.

The Council went into Executive Session.

Dr. Kerr, acting as Secretary pro-tem of the Executive Session, reported that Dr. Gunn presented the minutes of the Budget Committee meetings of July 2, and October 1, 1965, and the following actions were taken:

1. The suggestions that in 1966 the MSMA office staff service the Missouri Academy of General Practice with the Academy paying the MSMA a definite sum for this service was approved pending action by the Board of Directors of the MAGP.

2. The recommendations of the Committee relative to changes in salary arrangements of Mr. O'Brien and Mr. McIntyre were approved.

3. Recommendations for improvements in the retirement program for employees of the MSMA were approved and proposed for budget consideration at the December Council meeting.

4. On motion of Dr. Stuart, duly seconded, it was agreed to accept the letter of resignation of Mr. O'Brien as Executive Secretary so that he could accept the position of Executive Assistant.

5. On motion of Dr. McCraw, duly seconded, it was agreed that Mr. Ray McIntyre be appointed as Executive Secretary.

Minutes of the Budget Committee meetings and the Council Executive Session are on file in the MSMA office.

Dr. Whitener read a letter of thanks received from Mrs. Richard A. Sutter, President of the Woman's Auxiliary to the AMA, in appreciation of the help received from the State Medical Association, the Council and the staff at the reception in New York. He also presented a letter of thanks received from Mrs. Bohnsack, President of the Woman's Auxiliary of MSMA for the help and assistance by the Council, Officers, Delegates and Alternates and their wives, and the staff at the AMA meeting in New York.

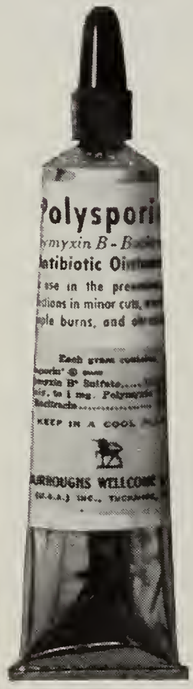
Dr. Whitener read another letter received from Mrs. Bohnsack on August 2, offering the help of the Auxiliary in any and all large projects where they are needed. She also suggested that they are anxious to increase their membership if at all possible and suggested that all doctors' wives should be urged to join the Auxiliary. She stated that some states have a joint membership with the doctors paying their wives Auxiliary dues at the same time that they pay their own medical society dues. On motion of Dr. Whitener, duly seconded, it was agreed that the request of Mrs. Bohnsack be referred to the Auxiliary Advisory Committee for consideration. (No action was taken on that portion of the letter relating to the collection of dues of the Auxiliary.)

Dr. Whitener then reported on a letter received from Dr. James G. Telfer, Secretary of the Committee on Environmental and Public Health of the AMA, in regard to the National Symposium on Venereal Disease Control to be held in Chicago, Saturday, November 20, 1965 at the Drake Hotel, and requesting a representative of the State Medical Association to attend. After discussion, and on motion of Dr. Stuart, duly seconded, it was agreed that Dr. William Powell, Springfield, Chairman of the Committee on Control of Venereal Disease of MSMA, be requested to attend this meeting and that his expenses be paid by the Association.

Dr. Whitener then reported on several meetings he attended or plans to attend in the near future, including the Institute on Mental Retardation held in Jefferson City on August 10, 11 and 12; the Missouri Conference on Cardiac and Related Chronic Diseases, Jefferson City, September 11 and 12; and the coming Annual Conference of the Missouri Association for Mental Health, October 7, 8 and 9, in Jefferson City. It was pointed out that Drs. Guhleman, Kendis, Froelich and Edwards, members of the Mental Health Committee, and Mr. Allen Smith of the MSMA staff, had been requested to attend this conference as representatives of MSMA.

Dr. Stuart reported that he had received a telephone call from Dr. Durward Hall in Chicago. He mentioned that 44 separate resolutions were introduced on Saturday, October 2, all pertaining to Medicare. He also stated that all four MSMA Delegates were there and we were well represented.

Dr. Wilson was asked to give his opinion on the Heart, Cancer and Stroke legislation. He felt that this legislation will pass, and that much of the money appropriated will be spent for planning and he reported that members of the Missouri University Medical School Advisory Committee will meet this week with the Governor to discuss the formation of a state-wide commit-



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tee which would be the State of Missouri Advisory Council relative to implementing the legislation in Missouri. It was suggested that Dr. Fisher, as chairman of this Advisory Committee, and Dr. Wilson keep us informed on this subject.

Mr. McIntire reported on letters sent to Representatives and Senators regarding H.R. 3141—Health Education Bill Amendments which involves loans and scholarships to medical students from the Federal Government. He stated that H.R. 3141 has passed the House and also the Senate Committee and is up for action on the Senate Floor. The feeling is that this will pass the Senate. He stated that the letters sent from the State Association reported to our Congressmen and Senators the background and operation of the Missouri State Medical Foundation in an effort to let them know that Missouri is taking care of its own problem.

Mr. McIntyre reported on a number of pending bills in regard to Animal Research, stating that there were 10 bills pending on the care of laboratory animals, that the AMA was to appear and present its views on this subject. He stated that these bills will probably not be passed now, but will be held over until after January and they would come up again.

Mr. McIntyre reported that retroactive to January 1, 1965, medical doctors will come under Social Security and that Mr. Fox had secured some pamphlets relative to this from the Social Security office which were distributed.

Discussion followed regarding Part B of the new Medicare" law which deals with physician services and payments. It was pointed out that the regulations are not yet issued but probably will be about January 1, 1966. Mr. McIntyre also reported that the MSMA Committee on Laboratory Medicine plans to meet on October 16, to discuss the information available from the State Medical Association on Part B, after which they plan to promote a meeting of the four ancillary groups and any others involved to discuss this subject. Dr. Fisher stated that the American Society of Radiology has had several meetings to discuss this phase of the Medicare law. Mr. Fox reported that the Board of Trustees of the Missouri Hospital Association had met and discussed the intermediary and fiscal agent phase of Part A of the Medicare law. After discussion, on motion of Dr. Kerr, seconded by Dr. Fisher, it was agreed that the State Association send a letter to all the specialty groups which are organized in the State, including the physiatrists, concerning the inadvisability of having separate dealings with governmental agencies under the Medicare law and recommending united action through the MSMA and the AMA.

Dr. Wilson reported on the work of the Governor's Advisory Committee established to study the overall organizational structure and functions of the Missouri Division of Health. It was noted that Dr. Benoit, representing the State Medical Association, is a member of this committee.

In the absence of Dr. Furlow, Dr. Benoit reviewed the minutes of the MMPAC Board meeting which was held in St. Louis on September 12. Discussion followed regarding the importance of increasing the membership in MMPAC. It was explained that AMPAC has called a meeting in Chicago on November 5 to which Executives and Attorneys for state medical associations have been invited. Mr. Noble and Mr. O'Brien will attend this meeting and report back to the MMPAC Board at a later meeting. It was also pointed out that a solicitation letter was being sent to the membership in the near future.

Mr. Fox reported on the current financial standing of the Missouri State Medical Foundation, stating that the maximum loan per student per year has been increased to $1,500, which is an increase of $500 over the previous amount. He reported that $24,500 had been received from the 1965 MSMA Assessment. He stated that 32 loans were issued to students for the Fall semester. On motion of Dr. Gunn, duly seconded, the report was approved.

Dr. Neilson's written report regarding the June AMA meeting was reviewed for the benefit of the Council. Dr. Stuart and Dr. Whitener reported that everyone worked hard and did a fine job and that they wished to thank everyone who took part, including the delegates, alternates, officers and staff and the wives who did such an excellent job.

Dr. Benoit appointed the following members to the Local Arrangements Committee for the 1966 Annual Session in Kansas City, March 27-30: Drs. Fisher, Wray and Benoit, chairman.

The Councilors reported on activities and meetings in their respective districts and on specific problems which have been brought to their attention.

Dr. Benoit, on behalf of the Council, expressed sincere appreciation and thanks to Dr. and Mrs. Stuart for the wonderful hospitality extended by them particularly on Saturday evening, October 2, and throughout the two-day session of the Council.

The next Council meeting will be held in St. Louis, on December 11 and 12, 1965.

The meeting of the Budget Committee will be held on Friday afternoon, December 10, at 4:00 p.m.

The meeting adjourned at 12:30 p.m.

Meeting of December 11, 12, 1965

Hector W. Benoit, Jr., M.D., Kansas City, Chairman, called the meeting to order. Those present were: Drs. Benoit; David N. Kerr, St. Louis; Robert A. Mayer, Clayton; James C. Cope, Columbia; Rolla B. Wray, Nevada; Doyle C. McCraw, Bolivar; E. A. Stricker, St. James; W. D. English, Cardwell; Paul R. Whitener, St. Louis; Byron M. Stuart, Boonville; John I. Matthews, Jefferson City; Walter T. Gunn, St. Louis; Joseph V. Finnegan, St. Louis; Arthur W. Neilson, St. James; J. Loren Washburn, Versailles; W. O. Allen, Columbia; Francis M. Maple, Springfield; Lynn M. Garner, Jefferson City; Henry C. Allen, St. Louis; Vincent P. Perna, St. Louis; A. C. Trueblood, St. Louis; Messrs. Arthur W. Seeds, Chicago; John W. Noble, Kennett; Gary Schnedler, Springfield; William H. Bartleson, Kansas City; Lemoine Skinner, Jordan Singleton, Hollister Smith, Edgar Mothershead, Raymond McIntyre, T. R. O'Brien, Thomas P. Fox and Allen D. Smith, St. Louis.

Dr. Benoit requested approval of the minutes of the Council meeting of October 2, 3. On motion of Dr. McCraw, duly seconded, the minutes were approved without change.

Mr. McIntyre presented a letter received from the Missouri State Medical Secretaries and Assistants Society asking approval of the Council of the following nominees to the Advisory Committee of their organization: Drs. L. H. Ferguson of Joplin and LeRoy J. Miller of Columbia. On motion of Dr. Stuart, duly seconded, it was recommended that these physicians be approved to serve on the Advisory Committee, and that the Medical Secretaries and Assistants Society be so advised.

A request received from Dr. Carl D. Siegel, Chairman of the Committee on Disaster Medical Care and National Defense, to defray his expenses for attending the Annual Civil Defense Conference in Chicago on October 30, 31, 1965, was approved on motion of Dr. Wray, duly seconded.

Mr. McIntyre presented a copy of the November, 1965 issue of MISSOURI MEDICINE, calling attention to the copy of the Revised Constitution and By-Laws which was included as an insert in that issue. He stated that this insert was removable so that each physician could retain it in his file. He also complimented Allen Smith for a job well done. He called attention to a letter regarding the Missouri State Medical Foundation which was sent to the membership early in December soliciting funds for the Foundation for 1966. Mr. Fox reported that as of Friday, December 10, 17 contributions had been received for a total of $355.00. Mr. McIntyre also mentioned that for the fifth time, the MSMA Executive Office has won an award for 100% cooperation in the United Fund campaign. He called attention to the National Conference on Federal Medical Assistance Programs which will be held at the Drake Hotel in Chicago on January 20, 21, 1966. He stated that this would be primarily a discussion on Title XIX, expanding Kerr-Mills under the new Medicare Law. He said that the present law in Missouri will need changing in order to conform to the requirements under title XIX, and that MSMA is invited to send representatives to this conference, sponsored by the AMA. It was reported that expenses would be paid by the AMA for two representatives from each state medical association, and that more detailed information would be forthcoming in the near future. He stated that this meeting was also open to others interested in the implementation of these programs, such as various state agencies. On motion of Dr. Gunn, duly seconded, it was agreed that the Chairman of the Council be empowered to appoint the necessary representatives to attend this meeting.

Mr. McIntyre requested the Chairman to ask Mr. Noble to give a report on a meeting with a committee of the Missouri Bar Association which he attended. Mr. Noble stated that a special committee of the Missouri Bar had been formed, known as the Medico-Legal Committee of the Missouri Bar, to study the matter of testimony in malpractice cases. He stated that it was suggested that a similar committee to the Bar Committee be appointed by the State Medical Association to jointly try to resolve some mutual problems. Mr. Noble suggested that a resolution could be prepared to be submitted to the House of Delegates—stating that this would be the proper way to do it, since this committee should be appointed by the House, not the Council. In discussion, it was pointed out that MSMA had such a committee a few years back to work with a committee of the Bar but that very little was accomplished. However, it was also pointed out that such a committee would show our willingness to work with the Bar Association and cooperative endeavors would be to the advantage of both groups. Dr. Benoit stated that the Council at its October meeting passed a motion to recommend to the House of Delegates that such a committee be formed.

Dr. Benoit reported that he had received a revised Physical Examination form for the Neighborhood Youth Corps from the Missouri State Office of Urban Affairs requesting suggestions and approval of MSMA. Copies of the form were distributed to each Councilor and they were asked if they had any suggestions for further revisions or would they be willing to accept the new revised form. After considerable discussion regarding additions to the form, it was decided that any additions would make it more complicated and that the idea was to simplify it. On motion of Dr. McCraw, duly seconded, it was agreed that the form be approved as submitted (there being one dissenting vote, Dr. Kerr).

Dr. F. M. Maple of Springfield, presented a report of the Medical Services Committee of the Missouri Society of Internal Medicine regarding a recent study made on Medical Insurance coverage of selected large and small industrial concerns in Missouri. After considerable discussion, on motion of Dr. Kerr, seconded by Dr. McCraw, it was agreed to refer this matter to the Committee on Medical Economics for study and for consultation with the Missouri Society of Internal Medicine and report back to the Council prior to the Annual Session.

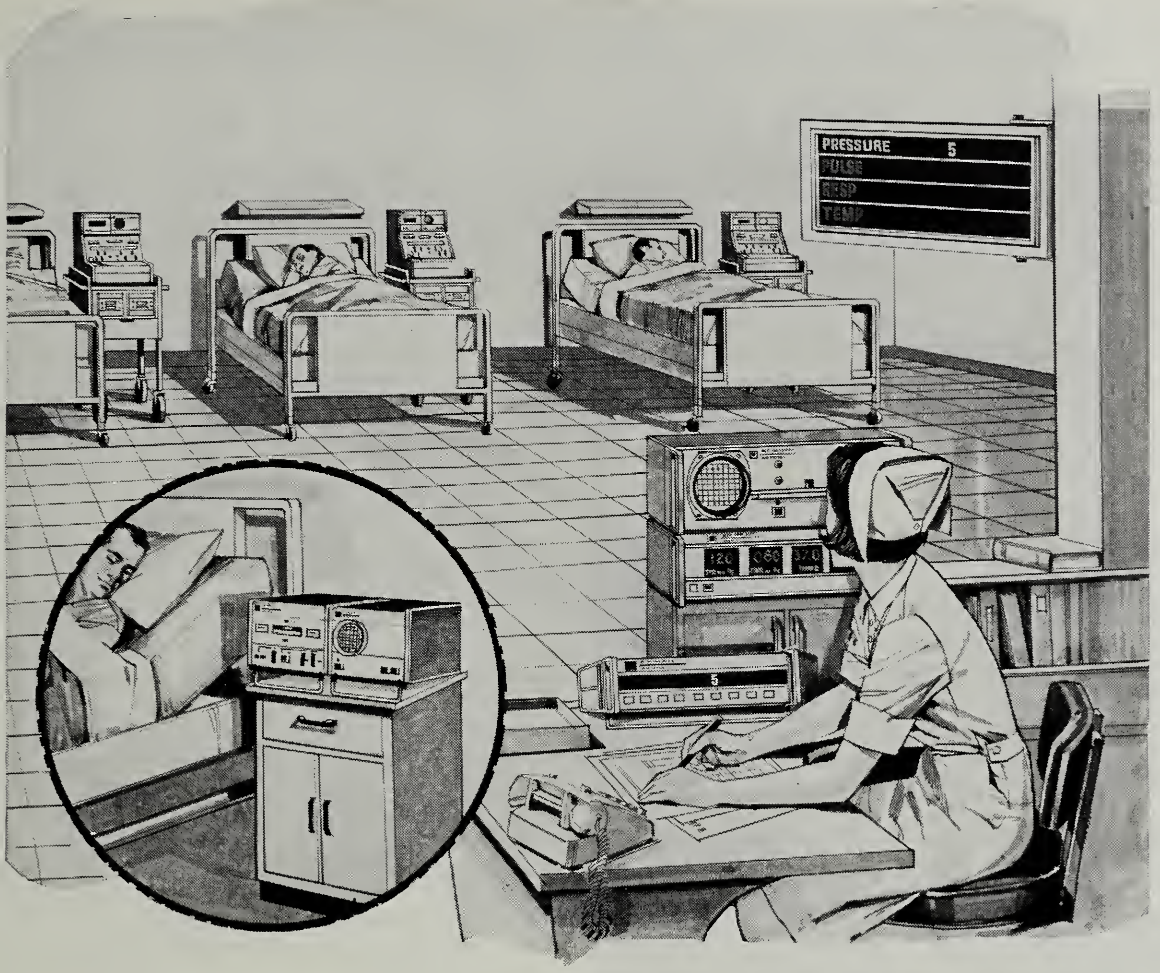
Dr. Gunn presented the Treasurer's Report as of November 30, 1965, stating that there was $47,812.55 in the Secretary's and Treasurer's accounts, and $17,555 which has been collected as the Kansas City Community Blood Bank Assessment, making a total of $30,257.55. He stated the Investment Account showed $112,488.30, making a grand total of $142,745.83.

Mr. Noble was asked to give his views as to the disposition of the Kansas City Blood Bank funds. He presented a suggested letter for the Executive Secretary to use in transmitting this assessment directly to the attorneys of the respondents. On motion of Dr. Whitener, duly seconded, it was agreed that Mr. McIntyre transmit the proposed letter and check to the attorneys as suggested by Mr. Noble.

Mr. O'Brien reported on the recent IRS investigation of some of the Association's activities. The Association accountants and attorney have been completely informed of the situation. Mr. O'Brien explained that the AMA had also been informed of the investigation. On motion of Dr. Wray, duly seconded, it was agreed that the Association be authorized to continue its opposition to any proposed tax for which we are not liable.

Dr. Gunn called attention to the MMPAC Application for Membership, copies of which were distributed to all the Councilors, and asked permission to send these application forms along with the County and MSMA dues notices. Dr. Benoit reviewed the action of the Council at its last meeting where it was decided no formal action would be taken on the MMPAC inserts until after the meeting in Chicago on November 6 at which the legal aspects were to be reviewed. Mr. O'Brien reported on the meeting in Chicago where several attorneys from state medical associations, as well as the AMA stated such joint billing is legal and effective. St. Louis County Medical Society requested their dues bills not include the MMPAC applications. The St. Louis City Society would notify the MSMA staff of their desires in the matter by December 15. On motion of Dr. Kerr, duly seconded, the report of the Treasurer was approved, including enclosure of MMPAC Membership Application forms in all 1966 dues notices with exceptions as noted.

The Council went into executive session to consider



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the recommendations and report of the Budget Committee on the proposed budget for 1966.

Dr. Henry Allen, Chairman of the State Medical Advisory Committee to State Selective Service Board, reported on the draft status of physicians in Missouri, stating that all physicians between the ages of 26 and 35 years of age are subject to induction into the Armed Services. Some physicians in training and others in practice may be declared essential in their present situations. He stated that recommendations to have anyone declared essential should be passed on to the local boards. He stated that 34 physicians from Missouri are to be called up in January. He thanked the Councilors for their assistance in furnishing helpful information from their districts relating to the entire matter.

Dr. Vincent Perna, Chairman of the Committee on Laboratory Medicine, reported on a meeting of his committee held October 16, 1965. The meeting was held primarily to discuss the changes in contractual relations between pathologists and hospitals in the implementation of Medicare. He stated that the committee was most anxious for the MSMA to endorse the principle of direct billing of patients by pathologists. He reported that he attended the meeting of the Executive Committee of MSMA on November 21 and was in full accord with the proposed resolution concerning direct billing by physicians as considered by the Committee for recommendation to the Council. Following discussion and on motion, duly seconded, the report of the Laboratory Committee was accepted.

Part of the head table at the 1966 Presidents' Banquet. (l to r) Dr. Paul F. Max; Dr. and Mrs. Joseph V. Finnegan; Dr. and Mrs. Harry Statland and Dr. and Mrs. Harold W. Miller.

Dr. Benoit reviewed the minutes of the Executive Committee meeting which was held in Columbia, November 21, and explained that its purpose was to coordinate the activities of the State Medical Association and the various specialty organizations in regards to PL 89-97, and to keep the AMA Delegates informed as to Council action. (The official minutes of the Executive Committee meeting are on file in the Association office.)

It was pointed out that the Executive Committee referred a recommendation for Blue Shield Plans in Missouri as the carrier under Part B of PL 89-97 for Council action. It was also pointed out that the Councilors were asked to bring this to the attention of their constituent societies to determine whether or not they wished the Blue Shield Plans of Missouri to be recommended by MSMA to HEW as a carrier. After considerable discussion pro and con, Mr. O'Brien explained that Blue Shield did not wish to be a carrier if the physicians of Missouri were not in favor of such. On motion of Dr. Stuart, seconded by Dr. Stricker, it was agreed that MSMA go on record recommending that the two Blue Shield plans in the State of Missouri be named a carrier under Part B of PL 89-97. Motion carried. A letter will be written to the Secretary of Health, Education and Welfare indicating such recommendation.

Dr. Merenda introduced a resolution at the Executive Committee meeting relating to separate billings for radiologist's professional fees from that of the Hospital Service Component in Radiological Services in hospitals. It was suggested that the resolution be broadened to include pathologists and all other physicians. After discussion, it was decided that the resolution be studied by our legal counsel and it would be reconsidered again on Sunday. At the Sunday session, the resolution was again presented with several revisions, the final version, on motion of Dr. Whitener, seconded by Dr. Kerr, was approved as amended. The amended resolution is as follows:

> *Whereas,* Radiology and pathology constitute an integral part of the practice of medicine, and radiologists and pathologists are physicians, practicing a specialty in medicine in the same way as surgeons, internists and other specialists; and
>
> *Whereas,* Radiologists and pathologists in a hospital must be members of the medical staff, with the same qualifications, rights, privileges, duties and responsibilities as other physician members of the medical staff; and
>
> *Whereas,* Any arrangement or contract, under which a radiologist or pathologist, or any other physician pools his professional fee with hospital charges tends to identify that physician as a part of hospital service and places him in the category of a hospital employee; and
>
> *Whereas,* Any such arrangement between hospital and physician conceals from the patient and the public the professional fee of the physician, and the charge of the hospital for facilities, supplies technical and auxiliary personnel, and the patient has the right to know who is being paid for what; and
>
> *Whereas,* Such a contractual arrangement tends to eliminate competition between physicians based upon proficiency and quality of service to patients, and substitutes competition for hospital contracts based upon a willingness to accept hospital dictated terms, which is a form of solicitation of patients; and
>
> *Whereas,* Inclusion of the professional service of radiologists and pathologists, as hospital services constitutes a serious threat towards the ultimate inclusion of all physician specialists as hospital-based hospital employees; and
>
> *Whereas,* The House of Delegates of the American Medical Association has, on many occasions, stated as a principle that "A physician should not dispose of his professional attainments or service to any hospital, corporation or lay board by whatever name called or however organized under terms or condi-

tions which permit the sale of the service of that physician by such agency for a fee; and

Whereas, Public Law 89-97, Medicare, makes it mandatory that no physician's professional fee be included under the Hospital Service Component, Part A, of the Law; and

Whereas, This necessitates separate billing of radiologists and pathologists professional fees from that of the Hospital Service Component in the radiological and pathological services on Medicare patients; and

Whereas, Having a different billing system for Medicare than for non-Medicare patients would result in confusion, and a uniform method of handling all radiological and pathological billing is preferred; and

Whereas, This system of separate billing has been tried and has been in effect in a number of hospitals for years including some university hospitals and has proven itself to be a most satisfactory system; and

Whereas, The American College of Radiology did, on October 1, 1965, adopt the policy of separate billing by radiologists; and

Whereas, On October 3, 1965, the House of Delegates of the American Medical Association adopted this policy of separate billing by all physicians as follows:

> "Hospital-based medical specialists are engaged in the practice of medicine. The fees for services of the fees of other physicians. The American Medical such specialists should not be merged with hospital charges. The charges for the services of such specialists should be established, billed and collected by the medical specialist in the same manner as are Association intends to continue vigorously its efforts to prevent inclusion in the future of the professional services of any practicing physician in the hospital service portion of any health care legislation,"

and,

Whereas, On October 26, 1965, the Greater St. Louis Society of Radiologists did, unanimously approve and accept the policies of separate billing by radiologists and other physicians as adopted by the American College of Radiology and the American Medical Association; and

Whereas, On November 10, 1965, the Greater Kansas City Radiological Society did, and the Missouri Radiological Society did, unanimously, approve and accept these same policies on separate billing by radiologists and other physicians as adopted by the American College of Radiology and the American Medical Association; and

Whereas, The College of American Pathologists did on October 21, 1965, adopt the policy of separate billing for pathologists; therefore, be it

Resolved, That the charges for the services of hospital-based medical specialists should be established, billed and collected by the medical specialists in the same manner as are the fees of other physicians; and be it further

Resolved, That the Missouri State Medical Association define as unethical and make known its disapproval of any contract or other arrangement whereby a physician merges his professional fee with hospital charges; and be it further

Resolved, That the Missouri State Medical Association form a committee to dispense information and assist its members in the implementation of these policies of separate billing by radiologists, pathologists and all other physicians, using all appropriate legal, ethical and communication channels available; and be it further

Resolved, That the Missouri State Medical Association forward a copy of this resolution to each of its members, to the two Blue Cross plans of Missouri, to the two Blue Shield Plans of Missouri, to such insurance carriers it deems advisable, to the Missouri Hospital Association and other pertinent associations, and include with this a request that they cooperate with the Missouri State Medical Association in its attempt to effectuate this principle of separate billing and abolish contractual arrangements between physicians and hospitals which in any way violate the spirit of this resolution.

Dr. Kerr, Vice Chairman of the Council, reviewed the balance of the Executive Committee minutes, stating that Dr. Neilson had submitted a letter to the Council and Officers dated October 19, 1965, suggesting that the MSMA prepare a statement of policy in regards to PL 89-97 and disseminate that statement to all physicians in the state. (Copy of Dr. Neilson's letter is on file in the Executive Office.) Following discussion, and on motion of Dr. Whitener, duly seconded, it was agreed that the following statement of policy, as amended, be adopted, and that it should be released to the newspapers and other news media as soon as possible, and a copy should be sent to the Secretary of each County Medical Society.

> "The Council of the Missouri State Medical Association at its meeting December 11, 12, 1965, formally adopted the following statement of policy in regards to PL 89-97, the so-called "medicare" law, and calls on member physicians to use this statement as a guideline in their relations with the law's provisions.
>
> "The Physician-members of the Missouri State Medical Association assure all patients that they will continue to receive the highest quality medical care possible under PL 89-97. The Association offers its assistance and cooperation to agencies of government, insurance carriers and institutional providers of health care in drafting mutually agreeable plans to assure continued high quality medical care for those persons covered under the new law. If in the future, however, it becomes apparent that any provision of PL 89-97 is not in the best interests of patients or of proven medical practice, the Association will campaign actively for remedial changes in the law or its administrative regulations.
>
> "The Missouri State Medical Association pledges to work with the General Assembly of Missouri in implementing the Public Assistance Provisions of PL 89-97.
>
> "The Association will also recommend to the State Legislature that any financial benefits accruing to county hospitals from federal matching funds under title XIX of the Law be used for medical purposes and not diverted to other uses.
>
> "And finally, let it be understood that the Missouri State Medical Association is not attempting to dictate to any individual physician the course of action which he may take in regards to providing medical care under PL 89-97. Each physician will have to decide this question for himself."

(Continued on page 528)

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Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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Remarks of Paul R. Whitener M.D., Retiring President

Mr. Speaker, Members of the House of Delegates:

The past year, in which I have had the honor and the great pleasure of serving as your president, has been a momentous year in the history of medicine.

When I addressed this House a year ago, as the incoming president of the Missouri State Medical Association, I noted that the Federal Medicare bill appeared to be at the point of adoption. It is now the law of the land. I should like once more to repeat the words I used at that time because I believe they have even greater importance for the profession today than they did then. I then stated that the implementation of Medicare would "raise an infinite number of complex problems that will demand of American medicine the greatest degree of strength, courage, insight and patient negotiation."

The challenge to organized medicine in America has never been more direct nor more urgent. On the first of this month, the President of the United States announced that he was directing the Secretary of Health, Education and Welfare to conduct studies to determine the best way of bringing high-quality medical service to all the people at the lowest cost.

This clearly demonstrates the correctness of our profession's concern about Medicare as the first step toward a total system of Federal medicine. We now see—months before the July 1 effective date of the initial program to care for the elderly—the clear sign of Federal initiative to extend the compulsory health insurance principle, or something like it, to the whole population.

The voice of medicine must be heard, and the effective influence of medicine must be felt if these rapidly evolving forces are to be kept in channels compatible with the freedom of our profession and the well-being of our patients.

I urge every one of you, therefore, to consider carefully the report of the Council in your handbook relating to an increase in dues in the amount of $10 a year beginning in 1967. During the past year I have been a party to deficit spending by MSMA—a course of action that goes against my early training and my own sense of prudence. The fact is that the job of this association is getting bigger every year as our program necessarily expands and as the urgencies of the challenges become more intense. We must have the resources to do the job.

In this same connection, I urge, as simply one doctor, that everyone of you recognize that the future course of medicine will be determined in large measure by the persons elected to the Congress in November of this year. I, for one, and I hope every one of you, as an effective citizen, will contribute to the Missouri Medical Political Action Committee so that our influence may have its maximum effect where it is most needed.

In this connection, I have to express my pride about the influence of our State of Missouri in national medical affairs in the past year. Our own Dr. Durward Hall failed by a handful of votes to win the presidency of the American Medical Association. He would, indeed, have been elected, had not many delegates felt that his services to the country as a Congressman would be more effective, if he were not required to fill a dual role. Similarly, our Betty

Sutter has represented us with grace and distinction as national president of the Woman's Auxiliary of the American Medical Association.

I want to say at this point that I am satisfied from personal experience that our state association is one of the most balanced and economical in the country. I urge you to do whatever needs to be done to make Missouri's voice in the counsels of organized medicine in the United States more effective. This will require money and work, both of which I believe we have the resources to provide.

I should like to say that my impression of the relative strength of our association is based on substantial personal experience. I have visited and made good friends in the societies of Illinois and of Michigan. Our vice-president, Charles Sherwin, attended the annual session of the Kentucky society, and our new president will visit Kentucky again this year. We have cordial relations with the Wisconsin society, which this year is celebrating its centennial. Two of my classmates are past presidents of the Oklahoma association, and we have good opportunities to strengthen our ties there.

Briefly, I urge upon you the importance of deliberately developing more cordial relations with other state associations and seeking to make Missouri an overmore effective force in the parent AMA. This, too, will take time and money.

It has been gratifying in the past year to see the progress we have made, through our Committee on Scientific and Post-Graduate Work and the Missouri University School of Medicine, in strengthening programs of post-graduate medical education. As I said to you in my talk a year ago, the care of the patient is the central concern of our profession. If we are to see our system of voluntary values preserved, it will require that every doctor have the opportunity—and take the opportunity—to keep abreast of new scientific and clinical developments. We are fortunate in Missouri to have the kind of leadership that Jack Matthews and Vern Wilson and their associates are providing.

We shall see, I am confident, a pace-setting program in which all the research and educational resources of the state are practically and conveniently available to the practicing doctor.

All of the members of MSMA may continue to take pride in the fine contribution the Missouri State Medical Foundation is making, through its student loan fund, to help able young Missourians complete their medical education. As you are aware, we are assessing ourselves in the amount of approximately $25,000 a year to support the foundation's loan-fund program. Since the fund was established in 1960, nearly $200,000 has been lent to 165 different students, a number of whom have finished their training and are now, I am happy to report, practicing in Missouri. Though the assessment will continue through 1968, and though the fund is now beginning to revolve as loans are repaid, I urge all who can to support the foundation program each year with individual contributions.

There is another important fact about our association and about the profession in Missouri. We have a close and cooperative relationship with all the specialty groups—including the Missouri Academy of General Practice—a relationship that puts the combined force of all of us into finding solutions for the problems of any individual group.

The year, as you are aware, has seen changes in the organization of our staff—changes made necessary by the curtailment of the duties of our able and beloved Tom O'Brien, who continues, as we all knew he would, to give us the benefit of his interest and advice. Ray McIntyre and his office associates have taken hold in an excellent way. It is apparent to me that we shall need in the future to strengthen our organization and support it more adequately in a financial way. At this time, I want to express my thanks to all the members of the staff who have worked so loyally with me in the past year.

More importantly, I have to thank the members of the Council, the officers of the association, and the chairmen of key committees for their unfailing good will and untiring support.

I have in closing one urgent recommendation to make to whomever at this convention you choose to be your president-elect. He will be invited to attend committee meetings, council meetings and special conferences touching on your urgent problems. If I have a single personal regret, it is that I did not in my year as president-elect participate as fully as I might have in the whole range of association activity.

I want you to know that the job of the president of this association is a big job. It is a time-consuming job. It is a traveling job—an away-from-home job. I cannot pretend that I have performed it with the full measure of success I could have wished for.

All I can say is my thanks for your confidence in giving me the chance to do my best. That is what I have done. I am happy now to resign the heavy, but exciting, responsibility to my successor, Byron Stuart.

Remarks of Byron M. Stuart, M.D., Incoming President

Mr. Speaker, Members of the House of Delegates:

A look at the materials in the reports of officers and committees and in your delegate's handbook for this annual session makes it clear to me that the members of this House are going to be hearing a very great many words between now and Wednesday morning. I am not going to add to that number unnecessarily in my remarks to you at this time.

First, I have to repeat my thanks to you for the honor you have done me in naming me your president. The way things are going, and the speed at which they are moving, makes it look as though the job in the coming year is going to be a tough one. I can only say that I shall do my best to measure up to its demands.

I have before me the example of Paul Whitener's dedicated service in the year just past. Never, I believe, have I known a president who gave himself more wholeheartedly and more unselfishly to the job. Paul has traveled to every part of Missouri to meet with county societies and individual doctors in order to understand their thinking and their interests. He has sought conscientiously to interpret state problems to doctors at the grass roots and to bring back to the council their opinions and their wishes. We may all join in congratulating him on a splendid record.

As I have said, great changes are in the making, and they are coming fast. Medicare, with all its unpredictable consequences, will take effect in just three months. Even before its implementation, as Paul Whitener noted, we have clear indication that the Federal government is planning a massive further extension of public programs in the health field to care for an ever larger number of the American people.

The rate of increase of public and private expenditures for health care continues to go up at a startling rate. In 1950, the total of such expenditures was about $13 billion. By the end of 1964, it had gone up nearly three times to about $37 billion.

With this explosive increase in expenditures for medical care, and with the growing intervention of government in the field, the problems that will confront our profession sometimes appear staggering. At the same time, it is our responsibility to our patients and to ourselves to try to find for these problems—solutions that will preserve values essential for the quality of patient care Americans have a right to expect.

The explosive developments in the economics of medicine are matched, if not exceeded, by the rapid increase in new scientific knowledge as the findings of research are multiplied in publications all over the world.

We have, then, a dual job in MSMA. First is the job of a scientific professional society. The second is the challenge to exert a significant influence on the course of social developments. Both jobs become more difficult every year.

As to our responsibility to serve the profession in all that relates to the scientific and clinical side of medical practice, I believe we may take satisfaction in looking at the program of this annual session as a good indication of effective work. I should like to echo Paul Whitener's congratulations to the Committee on Scientific and Post-Graduate Work, and its chairman, not only for the excellence of this convention program, but also for the year-round activities by which physicians in all parts of Missouri have been helped to keep abreast of new developments.

Time will not permit me to touch on individual committee reports, but the printed booklet gives a clear picture of the range of the work that has been done in every area of medical concern and medical service in Missouri.

Turning now to developments on the social and economic scene, I wish to call to your attention the materials in the handbook relating to problems we must be prepared to meet, as the July 1 effective date for Medicare approaches, and thereafter. These are problems of utilization review, problems relating to the form the new Title XIX implementation will take in Missouri, problems relating to new types of prepayment formulae our Blue Shield plans may need to evolve; and finally, the practical problem of expanding the activity of our association, its budget and its staff resources to measure up to the demands of the greater work load that clearly faces us.

It is not my purpose in these brief remarks to make to you specific recommendations regarding the resolutions and reports that will be before you. I urge you to consider them attentively and earnestly. Your actions in this session will certainly affect the practice of medicine in Missouri for years to come.

I call your special attention to the section in your handbook relating to dues. On this point, I have no hesitation in strongly recommending that you adopt the $10.00 increase that the Council proposes to begin in 1967. I do not think it possible that MSMA can do the job it will have to do for anything less.

I want, further, to express my personal opinion, as Paul Whitener expressed his, that every one of us has an obligation to himself and to his profession to support the MMPAC. In a democratic society, the course of the future is determined by, in the long run, the view of the candidates we elect to public office. We must become more effective in supporting men who share our values. In this election year, in particular, every doctor should feel a personal responsibility to do his part to influence, and, indeed, in some degree, reverse, certain strong present trends in our national life.

In conclusion, I have one very obvious, but very important thing to say. Changes are in the making in medical practice and in government philosophy. The results of these changes no one can foresee. All we can hope to do is to make our influence felt at every point, so that the course of change may be in some measure determined by our views and the interests of our patients.

In other words, the coming year will require of us the highest kind of statesmanship and the hardest kind of work. I am sure that we can give a good accounting of ourselves as we continue to work together as a united profession and as active, participating citizens.

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Report of Mrs. Ralph Bohnsack, President of the Woman's Auxiliary

Mr. Speaker, Doctor Whitener, Members of the House of Delegates and Guests:

Once more I stand before you after having completed almost twenty months as the President of the Woman's Auxiliary to the Missouri State Medical Association, and to say that I will be happy to turn over the gavel on Tuesday is the understatement of the year! But along with the relief of turning over the responsibilities which go with such an office, will come also a sense of loss—of missing the close association I have had with the Missouri State Medical Association and the Auxiliary members all over the state. I am quite sure, however, that I shall look forward with joy to the next convention when I can proudly wear my Past President's pin and sit back and relax and enjoy the meetings and the renewal of fast friendships I have gained.

We have used as our theme this year—ACCENT ON PROGRESS—progress in any way in which we could help to create a better and healthier community, state, nation, and world. As you know, we have for some time had a Point System whereby the county auxiliaries are graded on their accomplishments, with awards being given in various categories and a gold cup to the outstanding Auxiliary of the state. I am happy to say that my own Grand River Auxiliary of 29 members scattered over nine counties has won this two years in a row! We shall know at our Tuesday luncheon who will take it home with pride this year.

Twenty-five of the 29 county auxiliaries have reported to me thus far and I have read with pride their roles in their communities, the state, the nation. Sample drugs totalling 3,752 pounds, Johnny coats made from old white shirts, knitted leper bandages, soap, Journals, baby gowns, diapers, T-shirts, taped lectures, hospital gowns, and medical equipment have been sent overseas for our International Health Activities project. The sum of $4,302.73 has been given for Nurses' Scholarships and Loans to help further our Health Careers Recruitment. Hours reported spent in Community Service are 35,217—and I know this is a very conservative figure; in PTA; church activities; Scouts; Salvation Army Board; League of Women Voters; Symphony Orchestra; Polio, Cancer and Heart Drives; United Fund; People to People Programs; staffing TB and X-ray units; one member spent 300 hours in the Seventh Step Club helping to rehabilitate convicts; one member belongs to five PTA groups and is active in each; some have served on Mental Health Boards, Bloodmobiles; others have helped Handicapped Children; served as Pink Ladies or Gray Ladies in hospitals; transported visually handicapped to nursery schools; aided the Muscular Dystrophy and Cerebral Palsy Programs; Y.W.C.A.; Junior League; Blind Association; one Auxiliary—Cole County—made $800 at a hospital bazaar to buy needed equipment for the hospital; one of their members also won the A.A.U.W. Woman of Achievement Award for Community Service; others have helped the Red Cross; Well-Baby Clinics for the indigent; read to the blind; helped the Easter Seals program; one auxiliary contributed $200 to the medical library; another gave $165 for Mental Health. Several of the larger auxiliaries have held Community Service Guest Days where they have invited hundreds of heads of various organizations to be their guests at a luncheon and to hear and participate in a panel discussion on Mental Health problems or Juvenile Delinquency, or "Booze, Fags, and Fixes" as the St. Louis County Auxiliary recently did. Many have helped with legislation, writing letters to their Congressmen or working in AMPAC or MOPAC. Future Nurses and Candy Stripers Clubs have been formed. Books and pamphlets on health problems have been placed in schools and libraries. Several classes in Medical Self-Help have been organized in Girl Scouts and PTA groups, and the excellent film, "Emergency 77" shown. A "Tasting Tea" kas given by Lincoln-St. Charles and $150 given to the St. Charles TB and Health Association for X-rays. Boone County sponsored a "Nursing Refresher Course" in an attempt to alleviate the nurse shortage and 35 RN's have been reactivated. St. Louis City made bibs and bootees for the St. Louis Chronic Hospital. Grand River sponsored Camp Rainbow for Retarded Children, furnished nurses and equipment. Christmas gifts were given to inmates at the state hospitals. Cole County made 60 Johnny coats for World Medical Relief. Buchanan County gave $100 for needed medical equipment for the County Welfare Clinic in honor of the doctors of the county. They also gave play equipment to the children's ward of the state hospital and some members spend one afternoon a week with the juvenile mentally handicapped.

In Rural Health one Auxiliary sends out 60 letters each year to the Extension Clubs offering assistance in securing programs, speakers, films, on Safety, Mental Health, Disaster Preparedness, etc.

Buchanan County also secures nurses to teach First Aid to the Baby-sitting classes in the schools. Johnson County sponsored a seat-belt check at the Whiteman Air Force Base. Lincoln-St. Charles sends "helpful medical hints" to the county newspapers each month and also had one member—Mrs. Paul Scokel, voted the outstanding young woman of 1965 by the Junior Chamber of Commerce. Mineral Area concentrated on Mental Health since the state hospital is at Farmington. Pettis County gives brochures on "Health in a Changing Rural Environment," First Aid Guides, and Family Health Records to all new residents in the community and makes films available on health problems. They also sent 578 pounds of sample drugs, etc., to World Medical Relief and have only 27 members. They paid fun fines at their meetings for the postage. Our senior citizens have been remembered with gifts, visits, calls, transportation, been read to, had hot meals, baskets of fruit, etc.

Twenty auxiliaries have celebrated or will celebrate Doctors' Day to honor our favorite profession. To date, over $5,000 has been contributed to AMA-ERF for medical schools and medical student loan funds, and since for each dollar we contribute, they can loan $12.50, this would be approximately $75,000 contributed toward medical education. Some of the auxiliaries have also contributed to the Missouri Student Loan Foundation in honor of their doctors.

From the smallest auxiliary of eight members to the largest with 508 members—each one has contributed greatly to health education and good public relations for our doctors.

In only one field do I feel that we have fallen short and that is in the increase in our membership. Ten auxiliaries have lost members—partly through deaths, partly with members moving—some have just dropped their memberships. Some auxiliaries report quite a few new members, but the overall picture shows a loss. We have 1,813 members including 29 members-at-large, while I note in the March issue of the Missouri Medicine that you have 3,234 active members. That's a terrific gap of 1,421. Last year I asked you to help me with this—to go home and ask your wives if they belonged to this wonderful Auxiliary—the only organization that only doctors' wives can belong to—and if they didn't, why not? What happened? Some of you may think this is just another club—but it isn't. This is a real opportunity to contribute to the health and welfare of our communities and the world through health education and service—to improve public relations for the medical profession. The AMA has endorsed joint husband-wife memberships and many states are doing just this now and very effectively. I am hopeful that the Missouri State Medical Association will one day join these ranks so that every doctor's wife can work side by side with her husband in the field of medicine.

In my own life I have visited 20 of the 29 auxiliaries and one Fifth District meeting with six auxiliaries being invited by Cole County. I have written 18 articles for Missouri Medicine, eight articles for *RX Auxiliary News*, written and mailed letters four times a year to the Executive Board, planned and executed programs for two Fall Conferences and two state conventions, attended two National Fall Conferences and workshops in Chicago, one National Convention in San Francisco, one in New York, and expect to give my Missouri report at the one in Chicago in June. I planned, with much help from the MSMA and Auxiliary, a reception for our National President, Betty Sutter, in New York in June, and purchased and presented gifts, served on the Memorial Committee, played for a Rural Health and Safety skit, gave my report, reported on the St. Louis County Community Service Guest Day at the National Fall Conference in Chicago; represented our Missouri Auxiliary in Memphis when Ruth Kelling became president of the Southern Auxiliary and attended her convention in Houston in November. I have also directed two church choirs and a community chorus of 40 voices from surrounding communities; took them Christmas carolling to the nursing homes and hospitals; presented a Christmas Vespers with three choirs; sponsored three medical self-help classes; helped the Hospital Auxiliary and will assist with their District Convention in May; directed the Community Chorus in a Heart Benefit Concert in February; presented a Gershwin program for a study club and the Rotarian; performed my own compositions as a Missouri composer for two organizations; mailed 50 pounds of sample drugs for IHA; secured a Health Education Series for our schools and "Your Health" transcribed programs for the radio station; ordered First Aid Manuals for our Girl Scouts; placed health posters in the hospital lobby. I also managed to work in all the football and basketball games our son played in, and am working on track now. I have swept the dust under the rugs in our ten-room house, but have cooked three square meals a day for my family except when I was on the road.

I feel that one of our biggest accomplishments was our Annual Fall Conference—our HOOTENANNY FOR HEALTH held at the Holiday Inn in Poplar Bluff in October. The Butler-Ripley-Wayne Auxiliary was our hostess group and was ably assisted by the other auxiliaries of the Ninth and Tenth Districts—Cape Girardeau, Perry-St. Genevieve, Mineral Area, Dunklin, and South Central. We had the largest crowd in attendance we ever have had, including six National representatives—one from Hawaii.

Our program was a new experiment, using all the state chairmen in a Parade of Stars, each costuming according to her job, each introduced by my corny poetry, and each presentation being followed by the whole group singing together familiar songs with appropriate words to illustrate the point. We mixed fun and information and all went home inspired for our year's work and with many new-found friends in a relaxed setting. Dr. Whitener brought us greetings from the MSMA and Dr. Guhleman spoke to us on Mental Health. Many doctors were in attendance at our banquet. We received fine news coverage in the Poplar Bluff *Daily American Republic*, in the December 6 issue of the New York *Medical Tribune* which arranged for a photographer to cover our HOOTENANNY FOR HEALTH, and in the March issue of the National *MD's Wife*.

I would urge you to read these if you have not already done so.

We are proud of the continued interest of our past presidents in the Auxiliary—Betty Sutter is our National president; Ruth Kelling is our National Disaster Preparedness Chairman and the immediate past president of the Southern Auxiliary; Esther Bauman is our Regional Disaster Preparedness Chairman; Marjorie Peterson serves on the National Nominating Committee; Jane Stewart has been Corresponding Secretary for the Southern Auxiliary and Venus Schattyn the Councillor from Missouri. Jane Crispell prefers to stay in the background, but has compiled a wonderful Manual for all future presidents of our Auxiliary.

It has been a great honor for me to serve as President of our Missouri Auxiliary the same year in which both our National President and our Southern Auxiliary President have been from Missouri, too.

In closing I would like to express my great appreciation to Dr. Whitener; to Dr. Stuart; to our Advisory Council—Dr. Furlow, Dr. Benoit, and Dr. Fisher; to Ray McIntyre, Allen Smith, Tom O'Brien, Tom Fox, and Mrs. Bert Thomas in the state office for their invaluable advice and guidance and their wonderful cooperation. I know I speak for our entire Auxiliary when I say how much we appreciate the generous financial aid we receive from the Missouri State Medical Association in printing our quarterly bulletins, our July Roster, aiding us in our conventions, and the great help, both financially and manpower-wise which you gave us with the lovely reception we gave for Betty Sutter in New York. You will be happy to know that we spent considerably less than the figure you allowed us, and still had by far the nicest reception I have ever attended.

I have also appreciated the opportunity of writing an article each month for the MISSOURI MEDICINE and it has pleased me greatly to have so many doctors' comments on them. Thank you so much for the opportunity of reporting to you again, and may I wish for you a most successful convention.

And now, we have a little surprise for you. Since Doctors' Day is celebrated annually on March 30 by our Auxiliaries to honor our favorite doctors and has been since 1935—the date commemorating the day in 1842 when Dr. Crawford Long first used ether as an anesthetic to alleviate the suffering of mankind during surgical procedures; and since Wednesday is March 30 and some of you will be going home then or will already have gone, we would like to present you with this bouquet of red carnations to enjoy during your meetings and perhaps you will now and then think about your helpmates and know that we are thinking of you and honoring the favorite men in our lives. I would like to quote a little poem written by our own Ruth Kelling, so fitting for this day:

Raise the glass to our doctors, the men in our lives;
Here's a toast from the girlfriends, the Good Doctors' wives.
We really don't mean it, though often we gripe
When the steak that's been waiting is tougher than tripe!
It's not for ourselves, but we're sorry for you
When the meal we are eating is long overdue.
We could weep when you eat that dry roast at eleven
To think what you missed by not dining at seven!
We knew way back in the days when we courted
That the good and the bad would come oddly assorted;
That the patient whose baby was near due, by chance
Would go into labor the night of the dance!
You took off for the hospital; we took off that new formal,
We weren't surprised—the situation was normal!
Another child's illness we know is more vital
Than Junior's big game, or Susie's recital;
And Junior and Sue understand their position—
Daddy's not there because Dad's a physician!
But, oh, when that phone rings at six forty-five,
Seconds before dinner guests will arrive,
And we hear those sad words that we dread to hear most,
"Carry on with the party, dear—minus the host!"
But in this old world there are many worse fates
Than traveling through life as Good Doctors' mates.
It's a pleasure and privilege to walk by your sides,
To help you, and love you, whatever betides.
Raise the glass to our doctors, the men in our lives;
Here's a toast from the girlfriends, the Good Doctors' wives!

Annual Session Minutes (cont'd)

On motion of Dr. Matthews, duly seconded, the minutes of the Executive Committee meeting were approved.

Dr. Neilson gave a summary of actions of the House of Delegates of the AMA at its meeting in Philadelphia, November 28 to December 1, 1965. He stated that one of the most controversial issues before the House was the "usual and customary" fee concept versus the "prevailing fee" program of the National Association of Blue Shield Plans. He stated that eight statements of policy relating to billing and payment for medical services were approved. The House endorsed the idea of a $25.00 increase in AMA dues, effective January 1, 1967, however, final action on any dues change cannot be taken before the Annual Session in June of 1966. The Committee to Review the Organization of the House (Gunderson Committee) filed its final report and recommendations. The House approved the suggestion that size of the House be slowed down after it reaches 250 members. At that time the apportionment ratio will automatically be raised from one delegate per 1,000 members, or a fraction thereof, to one delegate per 1,250 members, or a fraction thereof. Dr. Neilson also stated that the three Missouri Resolutions (No. 55, Constitutionality of PL 89-97; No. 56, U. S. Public Health Service Physicians to Administer Government Medical and Health Programs; and No. 57, Commendation—Doctors in Government Service) all passed the House.

Dr. William Allen, Assistant Medical Director of the University of Missouri Medical Center reported that at the first meeting with the deans, assistant deans and faculty members of the medical schools in Missouri, it was reported that the Governor had to send a letter of inclusion and intent in regard to the State of Missouri being considered as a region. It has since been learned that Kansas, Oklahoma and Nebraska have gone together to form a region and are considering adding Colorado. He stated that Missouri University was invited to join the 4-state group. He said Dean Wilson met with them but made no comments. He stated that a second meeting with the deans of the St. Louis and Washington University Medical Schools and Missouri University is being planned, but it appears that there is still a long way to go before it can be considered a three-school operation. He stated that this meeting is being planned for the early part of January and that after this meeting Missouri should go ahead formulating a plan.

Dr. Garner, Acting Director, Division of Health, gave a brief report on activities of the Division stating that Dr. Russell and he had spent some time in Washington recently to get more information on setting up a state-wide section on Medical Care. He stated money was available for a state-wide planning group with the money coming from Public Health Service for home health services prior to next July when Medicare will start to reimburse the Division of Health. He stated the budget was sent in several days ago and that they hoped to start hiring people for these different projects, and are getting a staff to work on Medicare. Dr. Garner stated that the Division of Health would be glad to meet with representatives of MSMA at any time to work on mutual problems. Dr. Benoit thanked Dr. Garner for his report and informed him that the Council would be open for consultation at any time.

(Continued on page 530)

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Precautions: Use with caution in patients hypersensitive to sympathomimetic compounds, who have coronary or cardiovascular disease, or are severely hypertensive.

Dextro-amphetamine sulfate: Use by unstable individuals may result in psychological dependence.

Meprobamate: Careful supervision of dose and amounts prescribed is advised; especially for patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g. alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence. Where excessive dosage has continued for weeks or months, reduce dosage gradually. Sudden withdrawal may precipitate recurrence of pre-existing symptoms such as anxiety, anorexia, or insomnia; or withdrawal reactions such as vomiting, ataxia, tremors, muscle twitching and, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, reduce dose—operation of motor vehicles, machinery or other activity requiring alertness should be avoided. Effects of excessive alcohol consumption may be increased by meprobamate. Appropriate caution is recommended with patients prone to excessive drinking. In patients prone to both petit and grand mal epilepsy meprobamate may precipitate grand mal attacks. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

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Meprobamate: Drowsiness may occur and can be associated with ataxia, the symptom can usually be controlled by decreasing the dose, or by concomitant administration of central stimulants. Allergic or idiosyncratic reactions: maculopapular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case of fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis (1 case), anaphylaxis, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdosage may produce drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor, and respiratory collapse.

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Dr. Trueblood presented the report of the Maternal Welfare Committee which met at the Missouri Hotel in Jefferson City on November 14, 1965. He discussed the committee's work on maternal death studies in Missouri and stated that the committee is very anxious to work out satisfactory ways in which these studies could be made available to physicians in the state as educational information regarding maternal welfare. He also reported that the Maternal Welfare Committee would secure a speaker for the annual meeting of the MSMA on Monday, March 28, 1966, and also hold a luncheon meeting where the committee would present an annual statistical report. After discussion, on motion of Dr. Kerr, duly seconded, the report of the committee was approved.

Dr. Neilson presented the report of the Control of Venereal Disease Committee in the absence of Dr. Powell, the chairman. Dr. Neilson called special attention to the resolution adopted by the committee and asked approval of the resolution. The resolution strongly endorses educational programs that will enlighten the citizens of the State of Missouri as to the dangers of venereal disease. Also, in this respect, efforts are to be made as soon as possible to obtain educational outlets using the media of radio, television and the press. In the resolution the committee recommends to all local component medical societies that they implement all such educational efforts in their own communities. Dr. Neilson reported that the Committee has contacted the Department of Journalism of the University of Missouri Medical School and has requested their assistance in educational programs relating to Venereal Disease control in this state. Such educational programs have also been discussed by members of the Committee with Dr. Vernon Wilson, Dean of the University of Missouri Medical School. After discussion, on motion of Dr. McCraw, seconded by Dr. Mayer, the report of the Committee was approved.

Dr. Matthews presented a report of the Committee on Mental Health which met in Jefferson City on September 19, 1965. He said that the Committee believes that the medical profession should work for better liaison and cooperation with the Missouri State Mental Health Association and other groups having a special interest in mental health programs and activities in Missouri. He stated that the Committee is interested in working out a meeting with psychologists to discuss mutual problems. He reported that the Committee is again contacting county medical societies urging them to appoint mental health representatives who may receive information from and work with the State Association Mental Health Committee. After discussion regarding Mental Retardation, rapid treatment centers, and a report by Allen Smith regarding replies from 25 of the county societies who have appointed a member to serve on a subcommittee to work in conjunction with the regular Committee on Mental Health and receive information from the state level and in that way could keep abreast of what is happening in the field of mental health, on motion of Dr. Gunn, duly seconded, the Report of the Committee was approved.

Dr. Finnegan reviewed the minutes of the Publication Committee which met on November 7, 1965. He stated that a request had been received regarding acceptance of contraceptive advertising in MISSOURI MEDICINE and further explained the policy of MSMA in former years, and asked the Council's opinion on whether or not to accept this type advertising. Dr. Finnegan also reported on the State Medical Journal Advertising meeting which he and Mr. Smith attended in late October and said that the Bureau was doing a fine job in securing advertising for its members' journals. The matter of accepting mineral water and Tar-Gard advertising was also discussed. On motion of Dr. Gunn, duly seconded, it was agreed to accept contraceptive and mineral water advertising copy, with the provision that the publication committee have final approval of all copy. The Council rejected the request to advertise tobacco or alcoholic beverages. The matter of offering subscriptions to MISSOURI MEDICINE to osteopathic physicians was discussed at length, and on motion of Dr. Kerr, duly seconded, it was agreed to authorize the Publication Committee to offer the journal for subscriptions to members of the Osteopathic Association by invitation to their state office. Discussion followed on raising the subscription price of MISSOURI MEDICINE from the present figure of $3.00 per year to a more realistic figure of perhaps $4.00 or $5.00 per year. On motion of Dr. Gunn, duly seconded, it was agreed that the Publication Committee be empowered to raise the subscription rate to a more realistic figure at the end of the year, or whenever they see fit to do so. On motion of Dr. Gunn, duly seconded, the minutes of the Publication Committee were approved.

Dr. Matthews gave a brief report on the progress of the 1966 Annual Session program stating that there was not much change at this time, and that the preliminary program would be published in the January, 1966, issue of MISSOURI MEDICINE. He stated the only problem now is with the film portion of the program and reported that we now have a group of about 20 films to be shown during the session, two of which were from State Association members. He reviewed a letter received from Jackson County Medical Society regarding the social function on Sunday evening sponsored by the Woman's Auxiliary which will consist of a cocktail party in the Muehlebach Towers at 7:00 p.m., followed by dinner at 8:00 p.m. in the Grand Ballroom. Tickets will be sold which will include the cocktail party. The social activities in the planning stage for Monday evening are primarily for the wives.

Dr. Matthews reported on the responsibility of developing of Postgraduate Education subcommittees throughout the state to work in conjunction with the Medical Schools of Missouri in trying to develop better postgraduate programs. He stated that it involves all three medical schools, but primarily the University of Missouri. He stated that another letter will be sent to each member of the Scientific and Postgraduate Committee outlining the new responsibility of the committee in order to stimulate some action in response to the first letter which was sent on October 27. He reported that there would possibly be another meeting at the University of Missouri in January on this matter and stated that Dr. Whitener had attended several of these meetings, the purpose of which is to get the thinking of what members of our State Association would like to have done and to cooperate with the other medical schools for postgraduate programs throughout the state. He stated that continuing education can be a realistic step for future procedures for the universities.

Discussion followed regarding the 1967 Annual Session which is planned to start on Thursday, April 6, and end on Sunday morning, April 9. It was pointed out that if the House would meet on Thursday afternoon, approximately 3:30 or 4:00 p.m., the reference committees could then meet at 7:00 p.m., and could be completed around 9:00 or 10:00 p.m. It was recommended that the Council meet at noon on Thursday, so that their report could be completed in time for the opening session of the House of Delegates. It was the consensus that the Council meet at noon and the House of Delegates start in the afternoon. On motion of Dr. Cope, duly seconded, the report of the Program Committee was approved.

The matter of a State Association Hospital Utilization Committee was brought up again on Sunday and it was reported that no standing committee of the Association is set-up for this purpose. It was agreed that a special committee should be appointed. The following names were proposed to serve on this Committee: Drs. Z. Blaine Hibbard, Kansas City, Chairman; C. Gordon Stauffacher, Sedalia; William H. Snead, Jr., Springfield; Albert M. Repetto, St. Louis; B. J. Bass, Salem; Wyeth Hamlin, Hannibal; Clement B. Grebel, St. Louis. It was suggested that this Committee be activated promptly, that information be given them, and a directive from the Council as to what they should be expected to do should also be supplied. Dr. Matthews suggested that they should also be given a copy of Dr. Neilson's AMA report on Utilization Committees, and a copy of this report (from Council on Medical Service) should also be sent to each Councilor. On motion of Dr. Kerr, duly seconded, the above committee was approved.

Dr. Benoit reported that a MSMA committee should work with the State Agencies and other groups relative to the further enactment of legislation to expand Kerr-Mills in Missouri in conjunction with PL 89-97. It was suggested that the Medical Economics Committee be given this assignment with the addition of three additional persons, as follows: Drs. Avery Rowlette, Moberly; Stanley S. Peterson, Springfield; and Robert Tanner, Jefferson City. On motion of Dr. Matthews, duly seconded, it was agreed that this Committee be approved for this task with the above named persons added.

Dr. Kerr presented background information regarding the Illinois Association of the Professions, along with other states which have formed professional associations. He stated that the annual dues per member is $10, and that each organization which belongs also pays an organizational fee of $100 per year. He stated that the Illinois Association has seven state professional societies, that each of the seven societies have two members on the Board of Directors, that any additional members must have approval of three-fourths of the Board. He stated that they now have 800 members. It is incorporated as a non-profit corporation and a copy of the Articles of Incorporation was presented. Dr. Kerr stated that a meeting of the Public Service Committee is being considered for shortly after the first of the year at which time the above material would be considered, and a report would be submitted to the Council at its next meeting. No action was taken at this time, the material being presented for informational purposes only.

The following budget for 1966 was presented and discussion in detail by Dr. Gunn, and on motion of Dr. Stuart, seconded by Dr. Stricker, was approved.

Salaries	$ 82,210.00
Office Rent and Light	4,700.00
Postage	5,500.00
Office Supplies	5,500.00
Journal Expense	33,000.00
Telephone & Telegraph	3,000.00
Ins. Employees Pension Plan	15,300.00
Legal and Auditing	5,000.00
Taxes Payroll	2,500.00
Travel Expenses	7,000.00
Committee Expense	44,500.00
Furniture and Fixtures	500.00
General Expense	3,500.00
MSMF Assessment	26,040.00
MSMF Expenses	1,500.00
Total	$239,750.00

Dr. Gunn reported that anticipated income for 1966 was $225,400, leaving a deficit of $14,350. He said the Budget Committee unanimously recommended a $10.00 increase in annual MSMA dues effective January 1, 1967. On motion, duly seconded, it was agreed that such increase in dues be recommended to the House of Delegates at the 1966 Annual Session.

Mr. O'Brien presented some information in regards to the concept of "prevailing fees" and discussed this in relation to the new Medicare Law, as well as future Blue Shield programs. He also reported that all necessary approval and arrangements have been made for Missouri Medical Service to serve as the single fiscal administrator for the ODMC (Armed Services Dependents) program for the entire state.

Dr. Whitener reported on a number of meetings he had attended in the various districts, and on several he planned to attend in the near future. He also mentioned that he would be willing to accept as many invitations over the state as he possibly could. Dr. Whitener presented a letter received from Mrs. Jordan Kelling who was President of Southern Medical Association Auxiliary thanking him for the telegram received at the time of their annual session.

Dr. Benoit also expressed his thanks to the Council for the flowers received during his illness.

The Councilors reported on a number of activities in their respective districts.

It was decided to have the next Council meeting on

A "freshman" Councilor receives some sage advice from two veterans. Gerald L. Miller of Kansas City, newly elected Councilor from the 7th District, is flanked by Rolla B. Wray of Nevada (l) and Joseph L. Fisher of St. Joseph (r) but doesn't appear to be too impressed by the attention he is receiving.

February 12, 13, 1966. If possible to have a one-day meeting, it would preferably be on Sunday, February 13.

Meeting of February 12 and 13, 1966

Hector W. Benoit, Jr., M.D., Kansas City, Chairman, called the meeting to order. Those present were: Drs. Benoit; Joseph L. Fisher, St. Joseph; Lysle M. Bach, Hannibal; David N. Kerr, St. Louis; Robert A. Mayer, St. Louis; James C. Cope, Columbia; Rolla B. Wray, Nevada; Doyle C. McCraw, Bolivar; E. A. Stricker, St. James; W. D. English, Cardwell; Paul R. Whitener, St. Louis; Byron M. Stuart, Boonville; John I. Matthews, Jefferson City; Walter T. Gunn, St. Louis; Stanley S. Peterson, Springfield; Leonard T. Furlow, St. Louis; Richard H. Kiene, Kansas City; J. Loren Washburn, Versailles; Martin P. Hunter, Kansas City; Blaine Hibbard, Kansas City; Henry Allen, St. Louis; George Ulett, Jefferson City; M. L. Gentry, Jefferson City; Guy N. Magness, St. Louis; B. J. Bass, Salem; F. G. Pernoud, St. Louis; Vernon E. Wilson, William Mayer, Columbia; Larry Lampton, University of Missouri, Columbia; Messrs. John W. Noble, Kennett; Lester Smith, University City; Hollister Smith, Edgar Mothershead, St. Louis; William H. Bartleson, James Soward, Kansas City; Lemoine Skinner, Jr., St. Louis; Ray McIntyre, T. R. O'Brien, Thomas P. Fox and Allen D. Smith, St. Louis.

Dr. Benoit requested approval of the minutes of the Council meeting of December 11, 12, 1965. On motion of Dr. Stuart, duly seconded, the minutes were approved.

Mr. McIntyre presented a letter of thanks received from the law firm of Stinson, Mag, Thomson, McEvers & Fizell, for the financial assistance in the amount of $17,762.50 (MSMA 1965 Assessment) to help defray the expenses of the Kansas City Community Blood Bank suit. He also reported that a number of clippings had been received regarding the Council Policy Statement regarding PL 89-97, December 16, 1966, which was widely distributed to all newspapers, radio and TV stations in the State of Missouri.

He read a letter received from the Missouri State Medical Secretaries and Assistants Society requesting the Missouri State Medical Association to sponsor a Continental Breakfast for the Delegates to the American Association of Medical Assistants which will hold their national meeting at the Chase Hotel, St. Louis on October 19-23. It was pointed out that there would be approximately 150 delegates, and that other state medical associations had assisted in various concrete ways when the national meeting was held in their state. After discussion, on motion of Dr. Whitener, seconded by Dr. Stuart, it was agreed that MSMA sponsor a Continental Breakfast for the delegates of the American Association of Medical Assistants during their annual meeting and that $250.00 be alloted for this project.

Mr. O'Brien reported on the current situation involving the investigation by the IRS and their interpretation of unrelated income from annual meeting exhibits for the years 1958 through 1964. He stated that a letter of protest, with a request for a conference, had been prepared by our attorney and forwarded to the IRS.

Mr. O'Brien reported on the transfer of the Medicare (ODMC) program from the Kansas City area to the St. Louis Blue Shield plan and stated that it was accomplished in a satisfactory manner and is proceeding very well. He asked whether or not an effort should be made to change the program over to one of "fair, customary and usual" or "prevailing fee" type and stated that the contract expires at the end of 1966. However, matters relating to fees, individually or collectively may be taken up at any time, and that may help to improve fees in some instances. After discussion, on motion of Dr. Kerr, it was agreed that the Council authorize Mr. O'Brien to contact the ODMC Headquarters Office to attempt to negotiate changes as outlined.

Dr. Gunn reported $40,400.14 as cash on hand in the Treasurer's Account and the Secretary's Account as of January 31, 1966. He said that the Financial Statement for the year 1965, and the budget for 1966, would be published in the March issue of Missouri Medicine and also included in the Delegates Handbook. On motion of Dr. Gunn, seconded by Dr. Stuart, the report of the Treasurer was accepted.

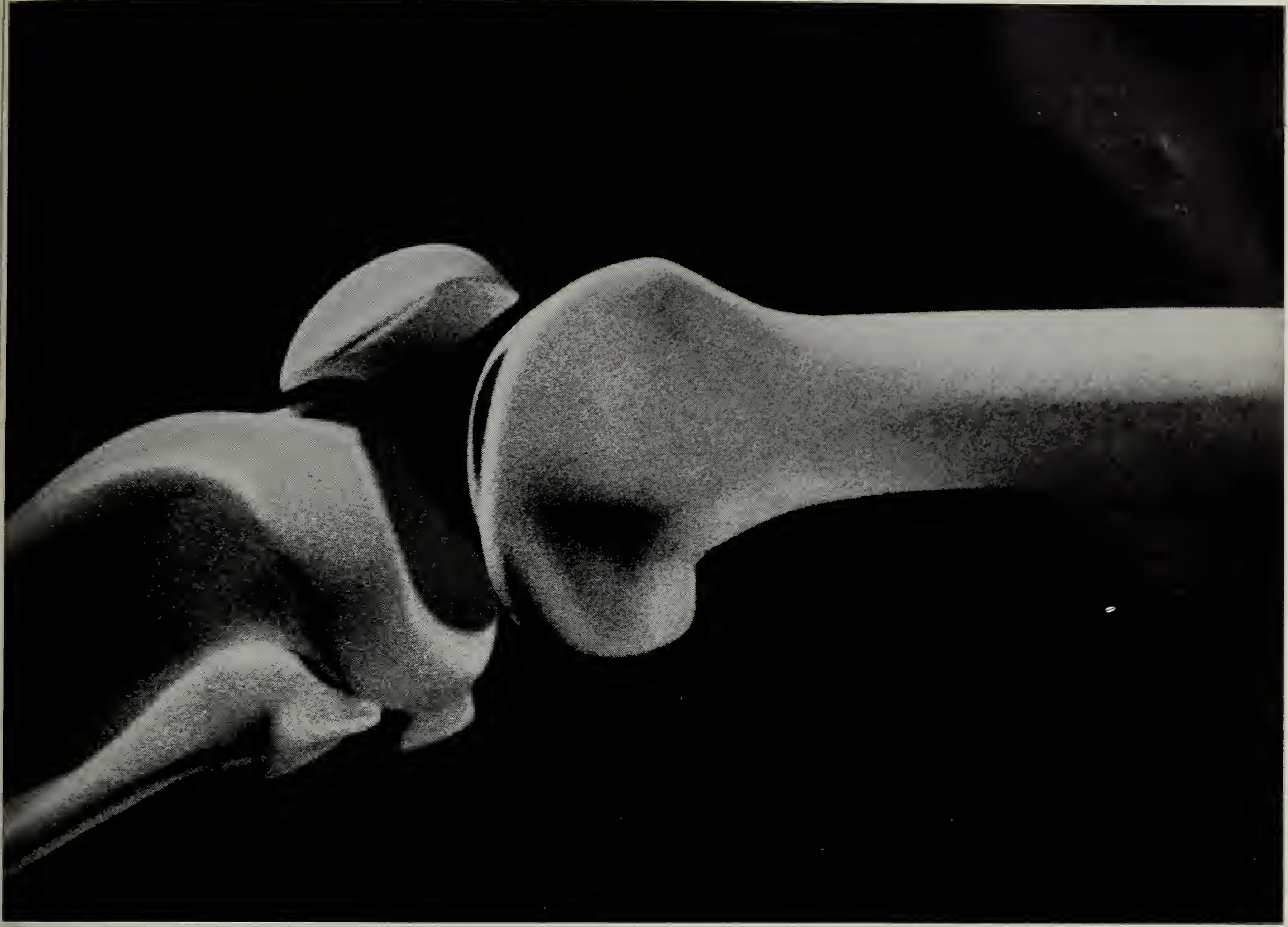
Dr. Whitener reported he had attended a number of Committee meetings which were very interesting and informative. He also reported on several other important meetings attended. Dr. Whitener said he had received a request from the Florida Medical Association for information about our Joint Licensure Law and a reply was being prepared.

Dr. Hibbard reviewed the minutes of the Special Committee on Utilization Review meeting which was held on January 30, 1966, the purpose of which was to draft proposed guidelines for establishing utilization review procedures in Missouri hospitals. He stated that the Committee did not go into the nursing home problem but felt the committee should be available to help the nursing home group set up a utilization review plan. The Committee reviewed the federal regulations pertaining to Utilization Review Committees under "Medicare" which relate to admissions, duration of stays and professional services to promote the most efficient use of available health facilities. The Committee endorsed and recommended for consideration the seven points on utilization review which were drafted by the AMA Council on Medical Service and approved by the AMA House of Delegates. The question of legal liability to members of a Utilization Review Committee was brought up and it was reported that Legal Counsel of HEW was looking into this question. It was also suggested that each physician check into his liability insurance for this purpose.

The Chairman of the Committee feels it may be helpful to include an osteopathic physician on this committee as an observer and also a representative from the St. Louis Blue Cross and the Kansas City Blue Cross-Blue Shield plans, the General American Life Insurance Company and Dr. M. L. Gentry of the Missouri Division of Health as observers. After discussion, on motion of Dr. Kerr, it was agreed that the Council request the Missouri Osteopathic Association to appoint one of their members to meet with the Utilization Review Committee. The motion was duly seconded and passed. It was also agreed, on motion of Dr. Wray, duly seconded, that representatives from Blue Cross from both sections of the State, Blue Shield from the Western part of the State, General American Life Insurance from the St. Louis area, Dr. Gentry of the Missouri Division of Health be invited to meet with the Utilization Review Committee as observers.

The complete minutes of the Special Committee on Utilization Review will be included in the Delegates Handbook for presentation to the House of Delegates.

After full consideration of the minutes, on motion of Dr. Kerr, duly seconded, the minutes were approved



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Usually works within 3 to 4 days in osteoarthritis

The trial period need not exceed 1 week. In contrast, the recommended trial period for indomethacin is *at least 1 month.*

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A large number of investigators have reported major improvement in about 75% of cases. Some patients have gone into remission. Relief of stiffness and pain may be followed quickly by improved function and resolution of other signs of inflammation. And Butazolidin alka is well tolerated, especially since it contains antacids and an antispasmodic to minimize gastric upset.

Contraindications
Edema, danger of cardiac decompensation; history or symptoms of peptic ulcer; renal, hepatic or cardiac damage; history of drug allergy; history of blood dyscrasia. The drug should not be given when the patient is senile, or when other potent drugs are given concurrently. Large doses are contraindicated in patients with glaucoma.

Precautions
Obtain a detailed history and a complete physical and laboratory examination, including a blood count. The patient should be closely supervised and should be warned to report immediately fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools. Make regular blood counts. Use greater care in the elderly.

Warning
If coumarin-type anticoagulants are given simultaneously, watch for excessive increase in prothrombin time. Pyrazole compounds may potentiate the pharmacologic action of sulfonylurea, sulfonamide-type agents and insulin. Carefully observe patients receiving such therapy.

Adverse Reactions
The most common are nausea, edema and drug rash. Hemodilution may cause moderate fall in red cell count. The drug may reactivate a latent peptic ulcer. Infrequently, agranulocytosis, generalized allergic reaction, stomatitis, salivary gland enlargement, vertigo and languor may occur. Leukemia and leukemoid reactions have been reported but cannot definitely be attributed to the drug. Thrombocytopenic purpura and aplastic anemia may occur. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hepatitis, jaundice, and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently.

Dosage
The initial daily dosage in adults is 300-600 mg. daily in divided doses. In most instances, 400 mg. daily is sufficient. When improvement occurs, dosage should be decreased to the minimum effective level: this should not exceed 400 mg. daily, and is often achieved with only 100-200 mg. daily.

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and it was agreed that the MSMA Special Committee on Utilization Review be continued under the authority of the Council and that they set up utilization guidelines and general suggestions for various sized hospitals of the state, be available to aid various areas or institutions on request, and, further, that the committee be authorized to request copies of individual hospital utilization plans from the State Division of Health, as they are submitted, work closely with the State Division of Health, and be imbued with a special sense of urgency.

Dr. Allen, Chairman of the Medical Advisory Committee to the State Selective Service Board, reported on the draft call for physicians for Missouri. He thanked the Councilors for their continued assistance in physician draft problems in their districts. He reported that the next call would probably be in July and that anyone receiving a 1-A card would have ten days in which to appeal.

Dr. Ulett, Director of the Division of Mental Diseases, gave a brief progress report on the work of the Division. He stated that four programs were in progress, (1) Development of three state Rapid Treatment Centers and the promotion of Community Mental Health Centers; (2) Development of nine Mental Retardation Clinics; (3) Operation of State Mental Hospitals; and (4) Training and Research Programs.

He reported that the Governor was in accord with the full program and he hoped that the State Association would support the Division's next budget request. After discussion, on motion of Dr. Kerr, seconded by Dr. Stricker, it was agreed that the MSMA support Dr. Ulett's budgetary requests.

Dr. Pernoud presented the report of the Committee on Eye Health which met on January 16. He said a sub-committee would be appointed and their services offered to the State Department of Revenue and the Missouri Division of Health in operating the new Missouri Driver Test Law. The full report of this committee is on file in the Executive Office. After discussion, on motion of Dr. Kerr, duly seconded, it was recommended that the report of the Committee on Eye Health be approved, with the exception of paragraph 3, page 2, which should be deleted.

Mr. O'Brien reported that a letter had been sent to the Voting Board of Blue Shield, two-thirds of whom are physicians, and to the officers of St. Louis Medical Society, St. Louis County Medical Society and Greene County Medical Society with material explaining the proposed "prevailing fee" program of the St. Louis Blue Shield plan, copies of which were distributed to the Council and Officers. He also presented a resolution for consideration of the Council and requested Council endorsement of the proposed "prevailing fee" program, stating that the resolution briefly explains what the program is and that, when completed, the program will be sent to the physicians for their approval by the Blue Shield plan. After further discussion, on motion of Dr. Kerr, seconded by Dr. Gunn, it was agreed that the Council accept this resolution without comment and refer it to the Committee on Medical Economics for study and report back to the Council.

Dr. Kerr presented the report of the Committee on Public Service which met on January 16, to consider the idea of the formation of a "Missouri Association of the Professions." Dr. Kerr reported that the Committee approves the idea of a Missouri Association of the Professions but feels that more information on the Associations now in existence should be secured before it is definitely decided that MSMA should actively sponsor such an Association. The Committee listed several items on which more information should be secured, and a number of questions to be studied further. After discussion, on motion of Dr. Wray, duly seconded, it was moved that the report of the Public Service Committee be accepted and approved for further investigation of the questions expressed in the report. The full report is on file in the Executive Office.

Dr. Hibbard discussed the possibility of the formation of a special committee on Specialty Medicine Groups which might include a member from each recognized specialty organization throughout the state. It was suggested that several physicians from different specialties could possibly sit in on Council meetings which would give a broader view on some of the questions and problems which the Council has to consider at various times, and could act in an advisory capacity. After discussion, on motion of Dr. Whitener, seconded by Dr. Kerr, it was agreed to refer this to the Committee on Constitution and By-Laws for study. After further discussion, Dr. Kerr made the motion, seconded by Dr. Mayer, that the Council go on record as favoring the formation of a Committee on Specialty Medicine Groups to be included as a Standing Committee of the Association. Motion carried.

Dr. Benoit presented a preliminary report of the Special Committee to Study the Location of the MSMA Executive Office. The Committee met at the Chase Hotel on Friday, February 11. The Council accepted the report with no recommendations, but authorized a request of the committee for necessary funds to hold and record desired interviews with selected people. The Chairman stated that additional meetings of the committee are scheduled. The report will be included in the Delegate's Handbook for presentation to the House of Delegates at the Annual Session.

Dr. Kerr presented the report of the Committee on Tuberculosis in the absence of the chairman, Dr. MacInnis. He stated that the Committee met on December 5, to consider the resolution which was referred to it by the 1965 House of Delegates in regard to TB testing of pre-school age children. The Committee analyzed the resolution and amended it, and suggested that it be referred to the Committee on Infant and Child Care for their opinion. Dr. Kerr reported that the Infant and Child Care Committee met to consider the amendments, but they were not all acceptable to the Infant and Child Care Committee. After discussion, duly seconded, it was agreed that the Report of the Committee on Tuberculosis be accepted and that further review of the differences between the Tuberculosis Committee and the Infant and Child Care Committee be finalized after the annual meeting. Motion carried with one dissenting vote.

Mr. Fox presented the report of the Committee on Cancer for the chairman, Dr. Lamy, who could not be present. The Committee met on November 28, to consider the subject of cancer registry which was approved by the MSMA House of Delegates in 1964. It was reported by Dr. Spratt that 16 registries have been organized across the state, which includes the Ellis Fischel State Cancer Hospital. Mr. Fox called attention to two forms which were developed for these registries, copies of which were appended to the report, Form A relates to the Initial Report, Missouri Cooperative Tumor Registry; and Form B, a Follow-up Report. The Committee on Cancer requested approval of the Council on the following recommendations: (1) Approval of the two forms devised by the Missouri Cooperative Tumor Registry Group; (2) Recommendation that all tumor registries in the state adopt Form A, "Initial Report" and Form B, "Follow-up Report"; and (3) Recommendation that the Missouri Division of Health explore methods of providing logistic and financial support to registries. The Committee on Cancer also discussed PL 89-293 regarding Heart, Cancer and Stroke, and the need for more education and annual check-up for the early detection of cancer. After discussion, on motion of Dr. Kerr, duly seconded, the report of the Committee on Cancer was accepted.

Mr. McIntyre reported on and distributed copies of a new Dietary Manual submitted to MSMA for approval by the Missouri Division of Health. After discussion, on motion of Dr. Gunn, duly seconded, it was agreed that Dr. Stanley Peterson assume responsibility for a study of the manual and report back to the Council.

Dr. Hunter presented the report of the Committee on Medical Economics which met in Columbia on February 6, 1966. The Committee reviewed the history of the Vendor and Kerr-Mills programs in Missouri now in effect. He stated that Dr. Tanner reported on actions which State Officials are taking in preparation for implementing Title XIX of Public Law 89-97. The Committee discussed various provisions and possible implications of Title XIX, and suggested a resolution for continued cooperation by MSMA with state officials in implementation of Title XIX of PL 89-97. The proposed resolution was unanimously approved by the Committee for submission to the Council and the House of Delegates for consideration. After discussion, on motion of Dr. Kerr, duly seconded, it was moved that the Report of the Committee on Medical Economics be accepted.

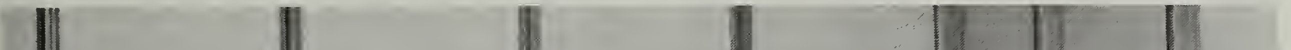
Dr. Benoit presented a letter received from an Insurance Company relative to a fee submitted by a member which the Insurance Company feels quite unjust. Discussion followed as to the disposition of this complaint. On motion of Dr. Gunn, duly seconded, it was agreed that the complaint be referred to the Councilor in whose district the member held his membership.

Dr. Magness presented the report of the Infant and Child Care Committee which met in Columbia on January 9. He reported on the activities of the Tenth National Conference on Physicians and Schools which he attended in Chicago on September 23-25, 1965. This report is on file in the Executive Office.

Dr. Magness reported that the Committee considered the report of Dr. Love regarding results of PKU testing under the new Missouri Law, H.B. 55; also PKU Laws in other states; PL 89-97, Title II, Sec. 532 which relates to Children's Health Care. Dr. Magness called attention to a resolution to be submitted to the House of Delegates which relates to health teaching as a required course in the school curriculum. He reported that the Committee reviewed the resolution referred to the Committee by the Committee on Tuberculosis in regard to TB testing of pre-school age children. The Infant and Child Care Committee further amended this resolution.

After discussion, it was reported that the Reports of the Infant and Child Care Committee and Committee on Tuberculosis would probably be referred to the same reference committee at the annual session and their differences regarding the resolution might be resolved here. On motion of Dr. Whitener, duly seconded, the Report of the Committee on Infant and Child Care was accepted.

Dr. Bass presented the report of the Committee on Rural Medical Service which met on January 23, in Jef-



The "new team" poses for its first formal portrait. (l to r) MSMA Secretary John I. Matthews; Chairman of the Council David N. Kerr; MSMA President Byron M. Stuart; President-Elect Hector W. Benoit, Jr.; and MSMA Treasurer Walter T. Gunn.

ferson City. He introduced Dr. Larry Lampton, a preceptee from the University of Missouri who is working with Dr. Bass. He stated that the Rural Medical Service Committee commends the University of Missouri for the very fine preceptorship program and the very tangible results which have already accrued to rural Missouri at this time. The Committee also discussed other possible sources of medical manpower for rural Missouri and suggested the possibility of setting up, possibly in conjunction with the Academy of General Practice with the assistance of the Medical School, some type of refresher course that would be available to assist physicians who might desire to re-locate into rural areas.

Dr. Bass called attention to a resolution which was introduced at the recent AMA Clinical Session in November which referred to proper signs along the highways indicating places where medical assistance could be obtained. He pointed out that signs along the interstate highways indicate "Food and Lodging" and could also include "Medical." However, it was pointed out that this was probably a matter for the Highway Department's consideration as well as other interested parties. After lengthy discussion, on motion of Dr. Kerr, duly seconded, it was agreed that the Report of the Committee on Rural Medical Service be accepted, with further information to be forthcoming on resolutions at the Annual Session.

Dr. Matthews reviewed the program for the 1966 Annual Session and distributed copies of the Preliminary Program folder which was forwarded to the membership last week. He called attention to the panels on Monday and Tuesday which were running concurrently, and also to the films which would run continuously during those two days. He mentioned that the films had been scheduled in such a way as not to conflict with a similar program or subject at the same time. He stated that this is a trial run, but thought this program would supply everyone with something of interest at all times during the session. On motion of Dr. Wray, duly seconded, the report of the Program Committee was accepted.

It was pointed out by Dr. Whitener that there was no provision in the By-Laws relating to appointment of Associate Members to Standing Committees, and that such a provision should be included. On motion of Dr. Whitener, duly seconded, it was moved that the Council approve an amendment to the By-Laws, Chapter VII, Section 4. "Associate members may be appointed to standing committees when deemed advisable. The term of such members shall be for one year." Motion passed. He reported that this proposed amendment would be in the report of the standing committee on Constitution and By-Laws to the House.

The Council reviewed the following material to be included in the Delegate's Handbook for presentation to the House of Delegates at the Annual Session:

1. Minutes of Council Meeting of February 12, 13, 1966.
2. Report of the Council relative to Dues Increase.
3. Report of Utilization Review Committee.
4. Report of the Committee on Medical Economics.
5. Preliminary Report of the Special Committee of the Council to Study the Location of the Executive Office of MSMA.
6. County Society Resolutions.
7. Information concerning "Prevailing Fees" and "Usual and Customary Fees" concepts.

On motion of Dr. Kerr, duly seconded, the above materials were approved for inclusion in the Handbook, as presented or amended.

Dr. Wilson reported that Dr. Mayer had been appointed as Special Assistant to Dr. Robert Marston, Director of the Heart, Cancer and Stroke Program.

The Councilors reported on activities in their respective districts.

The next meeting of the Council will be held during the Annual Session on Sunday morning, March 27, at 8:30 A.M. This will be a breakfast meeting at Hotel Muehlebach.

Doctor Benoit then presented a supplementary report on the Council meeting of Sunday, March 27, 1966 prior to the opening of the Annual Session. He reported as follows:

Doctor Whitener presented a special resolution.

WHEREAS, Thomas R. O'Brien served the Missouri State Medical Association with rare dedication and distinction as Executive Secretary for 21 years, from 1944 to 1965; and

WHEREAS, He continues actively in the service of the Association with a lightened work load but with no diminution of energetic concern for all that affects the welfare of the medical profession in Missouri; and

WHEREAS, Over the years he has won not only the respect and admiration of the membership at large, but also the affectionate personal regard of, literally, thousands of doctors throughout the state and nation; and

WHEREAS, His representation of the interests of medicine and the public before the legislature and other branches of government in Jefferson City, as well as in municipal and county jurisdictions, as circumstances required, in such a manner as to gain for medicine the esteem and informed understanding of public officials at all levels; and

WHEREAS, He has guided the development of Missouri Medical Service from the smallest beginning to its present multi-million dollar annual operation in the interests alike of physicians and patients; and

WHEREAS, Under his executive direction the program of Missouri State Medical Association has developed realistically and economically to meet needs and problems as they came along with sound policies and effective action; and

WHEREAS, Among the entire national group of state medical association secretaries, he is recognized for the acuteness of his mind, for the highest kind of executive competence and for the wisdom and prudence of his counsel; and

WHEREAS, He has always had the courage to advocate and press for policies he believed to be right without regard to the popularity of such policies—without, however, sacrificing anything of the winning friendliness and engaging spirit of moderation that are among his outstanding personal characteristics; now therefore

Be it resolved, By the House of Delegates of the Missouri State Medical Association, sitting at this 108th Annual Session in Kansas City, Missouri, that Thomas R. O'Brien be formally commended and accorded the highest praise for devoted and selfless service to doctors and the people of Missouri; and

Be it further resolved, That the House express to him on behalf of the entire membership the esteem and affection in which he is held by the doctors of the state; and

Be it further resolved, That the House extend to him the affectionate good wishes of the profession for health, happiness and continued service in the years to come.

From the floor of the House, Dr. Leonard T. Furlow moved that the rules be suspended, that the proposed resolution be adopted and that Mr. O'Brien also be made an honorary lay member of the Missouri State Medical Association with an appropriate certificate attesting to that fact. The combined motion won unanimous approval, and later Mr. O'Brien was given a standing ovation as he was escorted to the podium to acknowledge the honor.

Doctor Benoit continued with his report of the Council meeting.

"Dr. Gunn gave a brief report of the financial standing of the Association and stated that the report is included in the delegate's handbook. On motion of Dr. Gunn, duly seconded, the report was approved.

"Dr. Hibbard presented the Report of the Special Committee on Utilization Review, copies of which will be available at the Reference Committee meeting. The full report of the Utilization Committee is attached. And in essence they have indicated the most valuable guidelines which are available to individual hospitals, in preparing their program for a utilization review committee and its approval. It is recommended that the Blue Cross plans of both St. Louis and Kansas City who have already indicated their willingness to advise, be used as consultants by individual hospitals in formulating their utilization review program. Individual physicians in Missouri will be advised through a special article in the May issue of Missouri Medicine of the importance of reviewing their own personal malpractice insurance coverage as it relates to protection of them as individuals against litigation, as the results of actions taken by them as committee members of hospital staffs or members of local or state medical organization committees, in maintaining professional standards.

"And finally a recommendation was approved requesting the House of Delegates to instruct the Legislative Committee of MSMA to prepare and have introduced legislation at the next general assembly of the Missouri Legislature to amend the civil code in a manner similar to the California statute giving protection to physicians from litigation arising from action taken by them as members of hospital or professional committees. The entire Minutes with enclosures are to be forwarded to the chiefs of staff licensed hospital in the state of Missouri.

"The Council has approved the full report as summarized above. The Council accepted the report of the Medical Economics Committee and approved its presentation to the House of Delegates as summarized in the following resolution.

"I will read to you only the resolution proposed by the Medical Economics Committee and not the report of their Minutes, and their deliberations prior to drafting this resolution. The resolution which I will read to you was adopted by a vote of six ayes, two nays and one abstention. The vote that I gave you was the vote of the committee, not of the Council.

" '*Resolved,* That the Missouri State Medical Association cooperate and ask members to cooperate, with Missouri Medical Service in gathering guideline data required for study of the possible establishment of prevailing fee compensation arrangements in certain MMS programs, it being understood that any such programs would be consistent with the position of the American Medical Association on the subject and would be submitted to the Missouri State Medical Association for approval before implementation.'

"The Council proposes a resolution regarding the establishment of a medical liaison committee with the Missouri Bar Association which reads as follows:

" '*Resolved,* That the Missouri State Medical Association, acting through its House of Delegates, approve the establishment of a Special Committee to be known as the Medico-Legal Committee to act in a liaison capacity with a similar committee of the Missouri Bar Association; that the number of the members of the Special Committee shall be a like number that are appointed to serve upon the same committee of the Missouri Bar Association; that the members of said committee shall be appointed by the president of the Missouri State Medical Association to serve for a period of one year or until their successors are appointed; that the purpose of said committee shall be to meet and discuss matters of mutual interest with the like committee of the Bar Association and to report such discussions to the Council or House of Delegates, with the purpose of bringing about better understanding between the two professions and to make recommendations to the Association for improvements of the relationships between the two professions.'

"The Council received a recommendation which it has approved from the Editorial Board of Missouri Medicine calling for a change in the By-Laws as follows:

" '*Resolved,* That the by-laws of the Missouri State Medical Association, Chapter 8, Section 2, first sentence, be amended by striking out the words, "one and one-half dollars," and inserted in lieu thereof the words, "three dollars," so the amended sentence will read,

'Three dollars of the annual dues shall be credited to the account of the Journal for each member's annual subscription.'

"The Council recommends the change, which is purely a bookkeeping adjustment, and which will provide a modest increase of revenue to the Association from the Journal. The second preliminary report of the Special Committee of the Council to study the location of the executive office of MSMA was received and approved for presentation to the House, as an addition to the initial preliminary report of this committee included in the handbook. The report is as follows:

" 'The Committee met as a whole in Jefferson City on March 16 and 17, 1966. Interviews were held with: Rep. Tom F. Baker; Rep. Thom. D. Graham, Speaker of the House; Senator William J. Cason; Rep. Elva Mann; Sen. J. F. Patterson; Dr. Vernon Wilson, Dean, University of Missouri School of Medicine; Mr. Ted Lloyd, Executive Secretary, Missouri Hospital Association; Mr. Wade Baker, Executive Secretary, Missouri Bar Association; Mr. Paul Adams, Executive Secretary, Missouri Association of Osteopathic Physicians and Surgeons; Mr. Procter Carter, Director of Division of Health & Welfare; Mr. Ed Stegner, Executive Secretary of Missouri Conservation Federation.

" 'The next Committee Meeting was on March 26, 1966 in Kansas City at which time interviews were held with: Senator John Noble, Mr. Ray McIntyre, Mr. Allen Smith, Mr. Tom O'Brien, Mr. Wm. Bartleson, Mr. Ed Mothershead, Mr. Tom Fox, and Mr. Gary Schnedler.

" 'During the above interviews with State Officials, past and present, Senators and Representatives, and Executive personnel, the Committee obtained the following facts and attitudes:

" '1. Lobbying is an accepted fact of political life, no longer looked upon as an unethical activity, but on the contrary is an important method of effecting proper legislation. Such lobbying must be done not only when the legislature is in session, but at all times when interim committee meetings are being held.

" 'Most observers feel that some inherent risks are involved in lobbying, but the majority of them also felt such risks are avoidable. One's conduct with legislators and administrators must be governed by common sense and decorum whether one lives in Jefferson City or whether one merely visits on special occasions. The ability of our personnel to avoid entanglements or refrain

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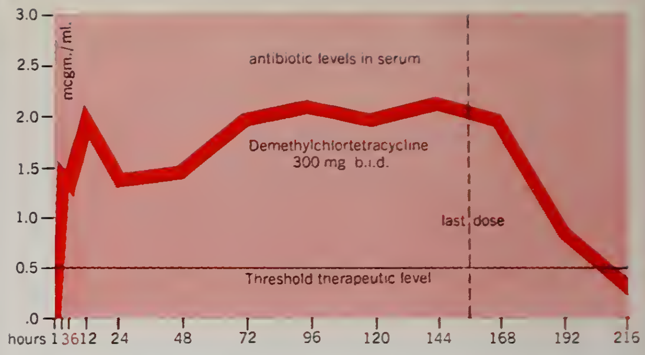
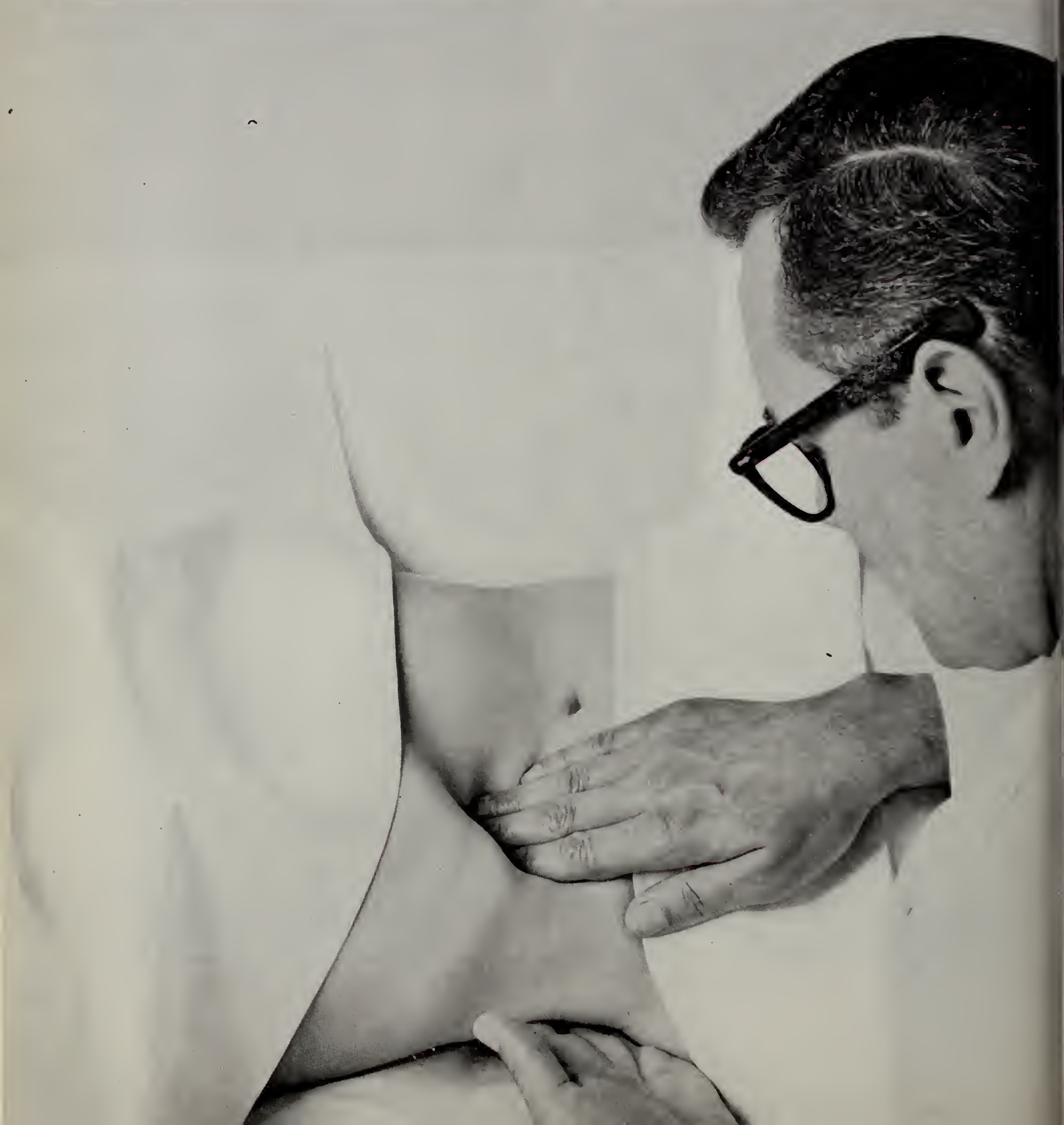
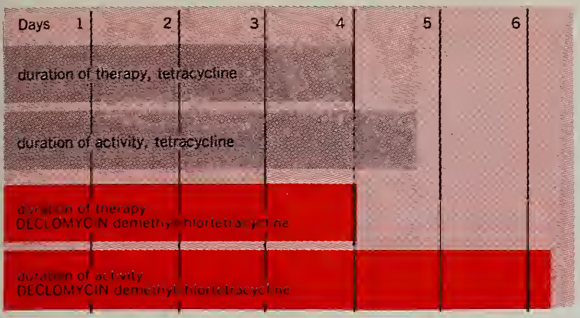


higher activity

levels than ordinary tetracyclines

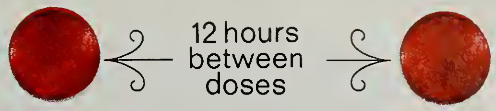
From Sweeney, W. M.; Dornbush, A. C., and Hardy, S. M.; Amer. J. Med. Sci. 243:296 (Mar.) 1962





1-2 days' "extra" activity

after the last dose to protect against relapse



one 300 mg Tablet
mid-morning

one 300 mg Tablet
mid-evening

It's made for b.i.d.

in G.U. infections broad-spectrum performance above and beyond the activity of ordinary tetracyclines

DECLOMYCIN®

DEMETHYLCHLORTETRACYCLINE

Effective in a wide range of everyday infections—respiratory, urinary tract and others—in the young and aged—the acutely or chronically ill—when the offending organisms are tetracycline-sensitive.

Contraindication—History of hypersensitivity to demethylchlortetracycline.

Warning—In renal impairment, usual doses may lead to excessive systemic accumulation and liver toxicity. Under such conditions, lower than usual doses are indicated and, if therapy is prolonged, serum level determinations may be advisable. A photodynamic reaction to natural or artificial sunlight has been observed. Small amounts of drug and short exposure may produce an exaggerated sunburn reaction which may range from erythema to severe skin manifestations. In a smaller proportion, photoallergic reactions have been reported. Patients should avoid direct exposure to sunlight and discontinue drug at the first evidence of discomfort.

Precautions and Side Effects—Overgrowth of nonsusceptible organisms may occur. Constant observation is essential. If new infections appear, appropriate measures should be taken. Use of demethylchlortetracycline during tooth development (last trimester of pregnancy, neonatal period and early childhood) may cause discoloration of the teeth (yellow-grey-brownish). This effect occurs mostly during long-term use but has also been observed in short treatment courses. In infants, increased intracranial pressure with bulging fontanels has been observed. All signs and symptoms have disappeared rapidly upon cessation of treatment. Side reactions include glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis and dermatitis. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Anaphylactoid reactions have been reported.

Average Adult Daily Dosage: 150 mg q.i.d. or 300 mg b.i.d. Should be given 1 hour before or 2 hours after meals, since absorption is impaired by the concomitant administration of high calcium content drugs, foods and some dairy products.

Capsules: 150 mg; *Tablets:* film coated, 300 mg, 150 mg, and 75 mg of demethylchlortetracycline HCl.

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from undesirable associations is dependent upon the tact and a firm adherence to principles of conduct, and not to the presence or absence of the home office in Jefferson City. Most observers agreed that day by day personal contacts enhance the efficiency of a representative of an association in obtaining valuable information, and imparting ideas and philosophies.

" '2. All observers were unanimous in their agreement that the only way to effectively influence legislators is by individual contact with the legislator in his home area and by supporting him in his campaigns. This is not being done at this time. The grass roots approach to legislators will not be hurt in any way by a transfer of the State Office to Jefferson City, and such a move conceivably could improve this contact. The attitudes and NEEDS OF THE LEGISLATORS WOULD BE MORE READILY DISCERNED and this information forwarded to their physician constituents.

" '3. All observers to varying degrees stressed that State Administrative Agencies function all year round, and more particularly, the scope of relations between the State Health & Welfare Agencies, and the MSMA has increased and is destined to increase more, to the point that daily contact between both groups will be mandatory. This situation did not exist even one year ago at the time of the last study of the State Office problem. The implications of Medicare and particular Title XIX, as well as the legislation to control Heart Disease, Cancer and Stroke, are far reaching and have radically altered THE RESPONSIBILITIES OF ORGANIZED MEDICINE IN DEALING WITH Government. The state governmental agencies and legislators constitute our main bulwark of protection against the probability of being totally overwhelmed by the Federal Bureaucratic Planners. Therefore, we must work more closely with State Government than we ever have before.

" '4. Many observers pointed out that medicine's interests have been represented at both the legislative and administrative levels of the State Government by the osteopaths and it is most fortunate that the osteopaths have been traveling a parallel road with medicine in the last few years. No observer could factually dispute this statement although it was most distasteful to a few.

" '5. Statements from executive personnel working in offices of organized medicine in Missouri indicated that four of them felt the office should be moved, two of them felt it should not be moved, and two of them felt it made no difference.

" '6. Four of the key staff personnel in the MSMA office have indicated that they would be willing to move to Jefferson City, if such a decision was reached. There is no reason to expect any change in the utilization of Mr. T. O'Brien's services, with him still maintaining his office in St. Louis. The mechanics and costs of moving the state office have not been studied in depth as yet, but initial investigations suggest they would not present insurmountable problems.

" '7. The Committee is contemplating further interviews, including Past Presidents of the Association, and Mr. James Foristel of the AMA Washington office. Further suggestions of a constructive nature, related to this investigation, are invited by the Committee from all interested parties. It is hoped that the Committee will be able to formulate a final report to be distributed as directed by the House of Delegates in 1965, by May or June of 1966.'

"The attached report of the Scientific and Postgraduate Committee was presented by Dr. Matthews recommending a cooperative program for continuing medical education for physicians over the State of Missouri, through the cooperative endeavors of this committee and the three medical schools. He also reported on a meeting of representatives of the MSMA Committee with the three deans of the medical schools where definite agreements were reached looking forward to working out these cooperative programs. On motion the report was accepted.

"The Council received a report from Dr. Durward Hall regarding the current status of regulations for implementing Medicare. Dr. Hall further reported that a great many legislative proposals are before the Congress for extending the present law. Dr. Hall thanked the Association for its full support for his candidacy as president-elect of the AMA last summer. He stated finally that the press of his congressional duties, particularly as a member of the House Armed Services Committee, would make it impossible for him to allow his name to be put in nomination for further service as AMA delegate from Missouri.

"The meeting adjourned at 11:50 A.M."

The Speaker announced the reference committees which were charged with considering various subjects within the Council's supplementary report and also noted the reference committee assignments for additional matters in the Delegates Handbook.

Doctor Whitener named the following members as members of the Committee on Nominations: Drs. John Martin, Phillip Foreman, George Hawkins, C. Howe Eller, George Shull, Donald Giesler, Kenneth Hollweg (Chairman), Kenneth Glover, Claude Cooper and Eugene Hansbrough.

The Speaker invited introduction of new business.

Dr. Charles B. Wheeler, Jr., offered a resolution from the Committee on Laboratory Medicine.

WHEREAS, The Missouri State Medical Association has sought the passage of Medical Examiner's legislation to replace the Coroner's system in Missouri; and

WHEREAS, Representative David Rolwing of Mississippi County introduced an excellent Medical Examiner's bill in the last Missouri Legislature and worked hard for its passage; therefore,

Be it resolved, That the Missouri State Medical Association seek the support of the Missouri Bar Association in this effort to abolish the Coroner's system.

(Referred to the Reference Committee on Resolutions.)

Dr. Kenneth Glover submitted a resolution from the 8th Councilor District.

WHEREAS, During the last three (3) years the location of the Missouri State Medical Association Executive Office has been discussed extensively by the Missouri State Medical Association House of Delegates; and

WHEREAS, With the passage of Public Law 89-97 it is absolutely essential that we have day-to-day contact with the various governmental bodies administering the Medicare Program; and

WHEREAS, With the implementation of Title Nineteen of Public Law 89-97, which will be administered by the State in Jefferson City, it is quite apparent that close contact will be needed with the Welfare Department and other agencies in Jefferson City. It is estimated that eighteen (18) million people over age sixty-five (65) will be covered by Public Law 89-97, while nearly thirty-six (36) million people will be covered under Title Nineteen of Public Law 89-97; and

WHEREAS, Not only is is necessary to have day-to-day contact with various governmental bodies, but it is apparent that there is an increasing need for better liaison with other allied and paramedical professions who are located in Jefferson City; and

WHEREAS, State Government is not conducted just once every two years when the General Assembly convenes, but is conducted on a daily basis by departments of the Government; and

WHEREAS, Organized medicine needs to be available to governmental bodies and other agencies whose executive offices are located in Jefferson City; therefore be it

Resolved, That the Missouri State Medical Association House of Delegates directs that the Missouri State Medical Association Executive Office be moved from its present location to Jefferson City, Missouri.

(Referred to the Reference Committee on Reports of Officers.)

Dr. Avery Rowlette of Moberly introduced the following resolution.

Whereas, The question of relocating the Association headquarters has been under study and debate for a number of years; and

Whereas, The results of studies by the Council and successive committees have not resulted in anything approaching a consensus on the issue; and

Whereas, A special committee of the Council is making still another study of the matter, and hopes to make its final recommendation in the near future; and

Whereas, This is a matter that will directly affect the interest of every member of the Association for years to come;

Now therefore be it resolved, By the House of Delegates that the question be submitted by a representative of the committee appointed by the president, with pertinent accompanying background information, to the entire membership for its vote by mail ballot, it being understood that, as provided by Article 9 of the Constitution, a majority vote of all members of the Association shall determine the question.

(Referred to the Reference Committee on Reports of Officers.)

Dr. Kenneth Hollweg introduced a resolution from the Jackson County Medical Society.

Whereas, The Congress of the United States has enacted the Medicare law, providing a wide range of health benefits within the framework of the Social Security program; and

Whereas, In particular, Title XIX of the new law provides for Federal assistance to states on a matching-fund basis for provision of extended benefits to public assistance recipients; and

Whereas, MSMA has heretofore endorsed the full implementation of the predecessor Kerr-Mills program for both the needy and the near-needy of the State of Missouri;

Now, therefore be it resolved, That the Association again endorse the principle that the State should participate to the full in the now-expanded Federal program, it being noted that Federal policy now requires state programs to include physicians' services; and

Be it further resolved, That member physicians determine, as a matter of individual free choice, whether or not they wish to participate in this or any other phase of the Medicare program.

(Referred to the Reference Committee on Miscellanous Affairs.)

Dr. George D. Shull introduced the following resolution.

Whereas, Revolutionary governmental changes in the practice of Medicine have occurred in the past year; and

Whereas, It is now mandatory that very close liaison be established with various welfare agencies and divisions of the Federal, State and Local government; and

Whereas, For obvious reasons nearly all allied medical and paramedical associations have established permanent headquarters in the capital city of our state; and,

Whereas, Continuous contact with various state divisions and state agencies is desirable; and

Whereas, The MSMA headquarters should be strategically and geographically located to best serve the interest of medicine and all the physicians of the State of Missouri; and,

Whereas, No new financing would become necessary and financial and intangible benefits would accrue to the Missouri State Medical Association; therefore,

Be it resolved, That this House of Delegates of the Missouri State Medical Association authorize and direct the officers and council of the MSMA to establish the executive offices of the Association in Jefferson City, prior to the convening of the 1967 General Session of the Missouri State Legislature.

(Referred to the Reference Committee on Reports of Officers.)

Dr. Edward D. Kinsella presented the following resolution.

Whereas, The physicians of Missouri are aware of the ever-increasing prevalence of pornographic and salacious literature both in Missouri and throughout the country and

Whereas, An examination by the Committee on Mental Health of the St. Louis Medical Society of a sample collection of paperback books, magazines and newspapers easily purchased from newsstands, magazine shops or received through the mails revealed material which was obscene, erotic, perverted and appealing primarily to prurient interests and

Whereas, All states, the federal government and most countries, recognizing the deleterious moral and social effects of pornographic and salacious literature, have laws passed directed towards the control of such literature.

Whereas, The United States Supreme Court has recently condemned obscenity for obscenity's sake,

Whereas, There is conflicting Medical opinion upon the significance and relationship of pornography to mental illness, delinquency and crime,

Whereas, No thorough and controlled studies are now available to resolve this conflict, therefore,

Be it resolved, That the physicians of Missouri through the MSMA, recognizing the fact that there is at this time no satisfactory medical evidence to implicate or exonerate pornography as the cause of mental illness, delinquency or crime, and cognizant of their responsibility for the mental and physical health of their community, do herewith propose that a controlled study of this problem be encouraged and promoted by the Committee on Mental Health by whatever means are at their disposal.

And be it further resolved, That reports on the progress of this project be submitted to the next two annual meetings of MSMA by the State Committee on Mental Health.

(Referred to the Reference Committee on Resolutions.)

Dr. James R. Nakada introduced the following resolution from the Fourth Councilor District.

Inasmuch as the disease, alcoholism, is recognized as the fourth greatest public health problem in our nation, and

Inasmuch as it is a problem of immense magnitude and serious nature to the state of Missouri, there being an estimated 160,000 alcoholics in our state and there being affected also the lives of some three or four other human beings for each alcoholic, and

Inasmuch as this disease is the cause of extreme suffering of many individuals and great financial expense to our state, and

Inasmuch as the federal government has shown great interest in attacking this problem, there having been ten Senators and ten Representatives in the current session of Congress who have introduced bills having to do with treatment of and research into alcoholism, and

Inasmuch as individual states will have to have their own alcoholism programs to participate in any federal assistance, and

Inasmuch as Missouri is the most populous of only seven states remaining without such a program, 43 states having already established one,

Be it resolved, That the Missourt State Medical Association, meeting in its annual session for 1966 in Kansas City, Missouri, petition Governor Warren E. Hearnes requesting that he call upon the various divisions of the Department of Health and Welfare of the State of Missouri to establish a statewide program on alcoholism and that a copy of this resolution accompany such petition.

(Referred to the Reference Committee on Resolutions.)

Dr. Edwin M. Powell introduced the following resolution from the Eighth Councilor District.

Whereas, Public Law 89-97 has been passed; and

Whereas, The "prevailing fee" medical-surgical concept has been proposed as one of the methods of reimbursing physician participants under Part B of Public Law 89-97; and

Whereas, The "prevailing fee" program would tend to fix physicians' fees and promote increased control over the physician's private practice; and

Whereas, The American Medical Association has always supported the usual and customary fee concept as the basis for reimbursing physician participants in government programs; therefore be it

Resolved, That the Missouri State Medical Association endorses the usual and customary fee concept as the only basis for reimbursing physicians in Missouri who are participants under Part B of Public Law 89-97 and any and all other government-supported programs or private group programs.

(Referred to the Reference Committee on Miscellaneous Affairs.)

The following resolution was introduced by Dr. Robert W. Maher in behalf of the Greene County Medical Society.

Whereas, It has become apparent that there is an increasing need for better liaison with the nursing profession, as well as other paramedical professions; and

Whereas, With the passage of Public Law 89-97 closer liaison will become even more important; therefore be it

Resolved, That the Professional Relations Committee of the

"All Interns are Alike"

It stands to reason. They all go through the same training; they all have to pass the same tests; they all have to measure up to the same standards; they all are underpaid, too. Therefore, all interns are alike.

That's utter nonsense, of course. But it's no more nonsensical than what some people say about aspirin. Namely: since all aspirin is at least supposed to come up to certain required standards, then all aspirin tablets must be alike.

Bayer's standards are far more demanding. In fact, there are at least *nine specific differences* involving purity, potency and speed of tablet disintegration. These Bayer® standards result in significant product benefits including gentleness to the stomach, and product stability that enables Bayer tablets to *stay* strong and gentle until they are taken.

So next time you hear someone say that all aspirin tablets are alike, you can say, with confidence, that it just isn't so.

You might also say that all interns aren't alike, either.

BAYER
ASPIRIN
FAST PAIN RELIEF
ORANGE FLAVORED
BAYER
ASPIRIN FOR
CHILDREN
50 TABLETS

Missouri State Medical Association be reactivated and the incoming President of Missouri State Medical Association be instructed to appoint the above-mentioned committee for 1966.

(Referred to the Reference Committee on Resolutions.)

There was no additional new business. The Speaker announced that Dr. Daniel D. Stuart of Brunswick would replace Dr. Foreman as a member of the Reference Committee on Constitution and By-Laws, and Dr. John K. Day of Bowling Green would replace Dr. Foreman as a member of the Nominating Committee.

There being no additional business, the Speaker declared the first session of the House of Delegates adjourned.

SECOND SESSION

Monday, March 28, 1966

The Second Session of the House was called to order at 4:00 PM in the Grand Ballroom with Doctor Peterson, Speaker, presiding. Doctor Miller, Chairman of the Credentials Committee, reported that a quorum was present.

Dr. William C. Mixson, Chairman of the Reference Committee on Constitution and By-Laws, was invited to make his report.

CONSTITUTION AND BY-LAWS

The Reference Committee on Constitution and By-Laws met at the Muehlebach Hotel on Sunday afternoon at 4:00 PM. The first order of business was to make formal the change in the Constitution which was passed by the Reference Committee at the session of 1965, and has been on the table for one year, to amend the Constitution, 1965 revision, page 3, Article V, line 7, after the comma, following the words "president-elect" by inserting the following words "immediate past-president." You will recall that this is the recommendation of Dr. Furlow last year, that the immediate past president of the Association become a member of the Council. Mr. Speaker, I move the adoption of this portion of the report.

(The motion was seconded and approved without opposition.)

The following two amendments were submitted for action of the 1966 House of Delegates by the 1965 Committee. To amend Chapter 7, Section 2, page 8 of the By-Laws, 1965 revision, after "A Committee on Public Service," by adding the following: "A committee on Legislative Matters." And further amend Chapter VII, Section 2, page 9, immediately before Section 3, by adding the following: "The Committee on Legislative Matters shall consist of five members of the Association, appointed annually by the President. The Committee shall consider legislative matters affecting the practice of medicine and public health and shall make recommendations to the Council and the House of Delegates."

This, again, is further action on material passed in the 1965 session. Mr. Speaker, I move the adoption of this portion of the report.

(The motion was seconded and approved without discussion.)

Changing the By-Laws, Chapter VIII, Section 1(a), page 10 of the By-Laws, 1965 Revision, line 2 be amended as follows: strike out the figures in line 2, $42.50 and insert in lieu thereof the figures $52.50.

This, Mr. Speaker, is the action in raising the dues of the Association by ten dollars. I move the adoption of this portion of the report.

(The motion was seconded and approved without discussion.)

Mr. Speaker, your Committee recommends a change in the By-Laws, Chapter VII, page 9 of the 1965 Revision, following Section 3, by adding a new section to read:

"Section 4: Associate members of standing committees may be appointed when deemed advisable. The term of such members shall be for one year."

Mr. Speaker, I move the adoption of this portion of the report.

(The motion was seconded and approved without discussion.)

Resolved, that the By-Laws of the Missouri State Medical Association, Chapter VIII, Section 2, first sentence, be amended by striking out the words "One and one-half dollars" and inserting in lieu thereof the words "Three dollars," so the amended sentence will read, "Three dollars of the annual dues shall be credited to the account of the Journal for each member's annual subscription."

Mr. Speaker, I move the adoption of this portion of the report.

(The motion was seconded and approved without discussion.)

Doctor Mixson moved the adoption of the report as a whole. The motion was seconded and approved.

Dr. Charles R. Gulick, Chairman of the Reference Committee on Reports of Officers, was invited to give his report.

REPORTS OF OFFICERS

The Reference Committee on Reports of Officers met in Room 365 of the Muehlebach Hotel on Sunday, March 27, 1966, at 4:00 PM. All members were present.

The addresses of the president and the president-elect were reviewed and approved. The report of the secretary, the report of the treasurer, and the report of the executive secretary were all reviewed and approved. The report of the president of the Woman's Auxiliary, Mrs. Ralph Bohnsack, was reviewed and approved by the committee.

(A motion to accept this portion of the report was seconded and approved.)

The Council recommended the formation of a Committee on Specialty Medicine Groups to be included as a standing committee of the Association. It is the understanding of this Reference Committee that the Specialty Medicine Groups would be representative of statewide organizations and would include a representative from the Missouri Academy of General Practice.

Mr. Speaker, I move that this portion of the report be accepted.

(The motion was seconded and approved.)

The committee then considered Resolutions No. 2 and No. 12 proposed by the St. Louis County Medical Society and the St. Louis City Medical Society respectively. The resolution reads as follows:

WHEREAS, The Council of the Missouri State Medical Association adopted a resolution on December 12, 1965, formally defining as unethical any arrangements between a medical doctor and a hospital which results in the physician's fee for his services being merged with the institution's charges, therefore, be it

Resolved, That the House of Delegates of the MSMA affirm and approve this resolution and urge all county societies in Missouri to do likewise.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion was seconded. During the discussion, another motion was made to replace the word "unethical" with the word "undesirable." It was seconded, but was defeated on the vote; and the original motion was passed.)

The Committee considered two resolutions concerned with the location of the State office of the MSMA. It is the feeling of this Committee that the work of the Council's special committee is being diligently pursued and that a decision on this issue by the House of Delegates or by the membership at large would be premature at this time. Therefore, we present the following resolution.

Newly installed MSMA President Byron M. Stuart (r) presents his predecessor, Paul R. Whitener (l), with a plaque expressing the Association's appreciation for his year of service as President. Doctor Whitener will continue as a member of the Council for another year under a new constitutional amendment.

Whereas, A special committee of the Council of the MSMA has been studying the location of the executive office of the MSMA and has compiled considerable information relating to this subject, and

Whereas, This committee's work is not as yet completed,

Be it resolved, That this committee be commended most highly for its extensive efforts, and

Be it further resolved, That this committee be permitted to continue its study and after the completion of its study to report its findings back to the next meeting of the House of Delegates, and

Be it further resolved, That the membership of this committee remain unchanged.

Mr. Chairman, I move the adoption of this portion of the report.

(The motion was seconded. General discussion followed. Dr. John N. Martin offered a substitute resolution.)

Whereas, The House of Delegates of MSMA in 1965 directed the Council of MSMA to further study the location of the executive state office, and

Whereas, The House directed that the result of this study be disseminated to the Delegates, Alternate Delegates, Councilors, Officers of MSMA, and the Presidents and Secretaries of each county medical society, therefore be it

Resolved, That the Special Committee of the Council to study the location of the executive office of MSMA be instructed to present a final report to the House of Delegates for action on Wednesday morning, March 30, 1966.

(The motion was seconded. During general discussion which followed, Dr. Hector W. Benoit, Jr., Chairman of the special office location study committee, received unanimous approval to address the House and to explain his committee's thinking. The Chair submitted the substitute resolution to a vote and ruled that it passed.)

Dr. Gulick moved adoption of the Committee's report as amended. The motion was seconded and approved.

Dr. C. G. Stauffacher, Chairman of the Reference Committee on Miscellaneous Affairs was invited to give his report.

MISCELLANEOUS AFFAIRS

The Reference Committee on Miscellaneous Affairs met in Room 363, Muehlebach Hotel, Sunday, March 27, 1966 at 4:00 pm with all members present, heard extensive testimony and adjourned at 6 pm. The meeting reconvened Monday, March 28, at 10 am in Room 364 with the following members present: C. G. Stauffacher, Chairman; Max Franklin, G. W. Winn, Frederick McCoy, Fred Wommack.

The report of the Committee on Mental Health as printed in the official reports of the House of Delegates was considered and accepted in toto. Mr. Speaker, I move adoption of this portion of the report.

(The motion was seconded and approved.)

The report of the Committee on Eye Health was accepted with the deletion of Paragraph 3, page 2. The Committee recommends acceptance of this portion of the report. Mr. Speaker, I move the adoption of this portion.

(The motion was seconded and approved.)

A recommendation of the Medical Economics Committee that the Association endorse a survey by Missouri Medical Service to gather data on medical fees was rejected, but Dr. Frederick J. McCoy offered a substitute resolution:

Whereas, The concept of prevailing fee is new and poorly understood, therefore,

Be it resolved, That the prevailing fee concept be considered further by the Council before definitive action is taken.

(The motion to adopt the substitute resolution was seconded and, after general discussion, approved.)

The remainder of the Medical Economics Committee report was recommended for adoption. The motion was seconded and passed.

The Committee recommended adoption of Resolution #13 which was introduced by the St. Louis County Medical Society. The Resolution concerned hospital utilization review committees and proposed that physicians serving as members of such committees would be "fully compensated" for their services. The Resolution was first adopted, then was brought back to the floor by a motion to reconsider and finally was referred back to Committee for further study.

Resolution #1 which was submitted by the St. Louis County Medical Society was recommended for adoption.

Whereas, Public Law 89-97 (The Social Security Medicare Law) has been passed by the Congress of the United States and will be implemented starting July 1, 1966, and

Whereas, Many provisions have not been clarified, and

Whereas, Many of the regulations now imposed or which may be imposed in the future may not be in keeping with good medical practice and may not be in the best interests of the patient, therefore be it,

Resolved, That as in the past, physicians of Missouri will continue to provide the highest quality of medical care for all patients in their practice; and be it further

Resolved, That each physician member of the MSMA is free to decide for himself whether to participate or not participate under the regulations of Public Law 89-97, and be it further

Resolved, That in the evolution of the regulations of Public Law 89-97, our Association should insist on corrective actions or changes in the law whenever necessary to maintain good medical practice and to maintain the best interests of the patient.

(The motion to adopt was seconded and passed without discussion.)

The Committee recommended adoption of resolution #4 which was submitted by the St. Louis County Medical Society.

WHEREAS, Public Law 89-97 requires the use of Utilization Review Committees, and

WHEREAS, Paragraph (k) Section 2, Instruction B, states that such Committees may be formed by "a group outside the institution" and which may be "established by the local medical society," and

WHEREAS, It is the essential duty of organized medicine to preserve the highest quality of medical care, therefore be it

Resolved, That all county medical societies in Missouri, acting individually or in an areawide combination, promptly provide such Utilization Review Committees for hospitals or extended care facilities which would operate under such law in their respective communities.

(The motion to adopt was seconded and passed.)

The Committee recommended adoption of Resolution #15 which was submitted by Councilor District #3.

WHEREAS, The Public Law 89-97 has been passed, and be it

Resolved, That the Missouri State Medical Association contact the Missouri State Legislature proposing that the state implement the public assistance provision of Law 89-97 and insist that the physicians be compensated on a usual and customary fee or a fee for service basis, and be it further

Resolved, That adjudication of fees be accomplished by adjudication or review committees composed only of practicing physicians, and elected by their respective medical societies, and be it further

Resolved, That the Missouri State Medical Association recommend to the State Legislature that all financial benefits which may accrue to hospitals through Federal matching funds or through direct payment to the hospitals in accordance with Title nineteen of Public Law 89-97 be used for medical purposes, such as direct care of the patients and for payments for services rendered by physicians and not diverted into any other channels.

(The motion to adopt was seconded and passed.)

The Committee recommended adoption of Resolution #8 which was submitted by the St. Louis County Medical Society.

WHEREAS, Public Law 89-97 has been passed by the Congress of the United States, and will be implemented starting July 1, 1966, and

WHEREAS, Many of the regulations now imposed or which may be imposed in the future, may not be in keeping with good medical practice and may not be in the best interests of the patient, and

WHEREAS, Many provisions of this law have not been clarified, now therefore be it

Resolved, That it be the right of each local medical society to express preference in the selection of an insurance carrier under Plan B of Public Law 89-97

And be it further resolved, That it be recommended that an insurance carrier should be selected only if it abides by the principles of usual, customary and reasonable fees.

(The motion to adopt was seconded and passed.)

The Committee recommended that Resolution #16, submitted by Councilor District #3 be rejected. Dr. James Y. Griggs offered a substitute resolution and moved that the matter be resubmitted to the Committee. That motion was seconded and passed.

The Committee recommended acceptance and adoption of the report of the Special Committee on Utilization Review. The motion to adopt was seconded and passed.

The Committee recommended adoption of a Resolution from the Eighth Councilor District which would have given Association endorsement to the "usual and customary fee concept as the only basis for reimbursing physicians . . . under . . . government supported programs or private group programs." Following extensive discussion, the motion to adopt was defeated.

The Committee recommended adoption of a Resolution which was submitted by the Jackson County Medical Society.

WHEREAS, The Congress of the United States has enacted the so-called Medicare Law, providing a wide range of health benefits, and

WHEREAS, In particular, Title nineteen of the new law, Public Law 89-97, provides for Federal assistance to states on a matching fund basis for provision of extended benefits to public assistance recipients; and

WHEREAS, MSMA has heretofore endorsed the full implementation of the predecessor Kerr-Mills program for both the needy and the near-needy of the State of Missouri; now, therefore be it

Resolved, That the Association again endorse the principle that the state should participate to the fullest in the now expanded Federal program as it relates to Title nineteen, it being noted that Federal policy now requires state programs to include physicians' services; and

Be it further resolved, That member physicians determine, as a matter of individual free choice, whether or not they wish to participate in this or any other phase of Public Law 89-97.

(The motion to adopt was seconded and passed. The motion to adopt the Reference Committee's entire report as amended was seconded and passed.)

The Speaker invited Dr. James C. Sisk to give the report of the Reference Committee on Resolutions.

RESOLUTIONS

The meeting of the Reference Committee on Resolutions of the Missouri State Medical Association was held at 4:30 PM on Sunday, March 27, Room 361, Muehlebach Hotel, with the following members present: myself as Chairman, Edwin Burford, Robert Magee, Frank Matteson, and Ray Froelich.

The Council Resolution asking for the establishment of a Special Committee to be known as the Medical Legal Committee is referred to the House of Delegates for passage with recommendation for adoption.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion was seconded and passed.)

The Committee considered and amended the Boone County Resolution (#10) and recommended adoption of the amended version.

WHEREAS, An increasingly critical shortage of skilled nursing personnel is evident at the present time, and the prospective expansion of existing medical facilities threatens further aggrevation of an already serious problem,

WHEREAS, Actions taken through local medical societies and medical society auxiliaries have proved effective in reactivating previously retired professional nurses, stimulating establishment of refresher courses, and interesting colleges and hospitals in establishing nurse training programs, and

WHEREAS, Nurse recruiting efforts can be materially aided by these organizations, and strong support can be given by vigorous medical society backing to existing training facilities, and

WHEREAS, The need for adequate compensation of the professional nurse deserves recognition as a factor in this crisis and merits the attention of organized medicine, and

WHEREAS, New ways need to be explored to train auxiliary paramedical personnel in limited but highly skilled duties, and

WHEREAS, The medical profession is not only entitled but morally obligated to exert a strong influence on trends and policies in nursing procurement and education, because of its ultimate effect on health services available to the American people, and

WHEREAS, The American Medical Association has established a committee on nursing and encouraged the establishment of similar groups on the state and county level,

Be it therefore resolved, That the Missouri State Medical Association establish such a Special Committee on Nursing and paramedical personnel with directives to assume its functions as soon as practicable with all necessary vigor, and to organize such activities on a statewide level as will make an optimum contribution to the solution of these health care problems, and to establish liaison with interested groups of the Missouri Hospital Association, the various nursing organizations and other paramedical groups.

(The motion to adopt was seconded and passed.)

The Greene County Resolution relating to a Professional Relations Committee was recommended for disapproval since its subject matter was embodied in the just approved resolution. The motion to disapprove was seconded and passed.

The Laboratory Committee Resolution concerning medical examiners' legislation was amended as follows:

Whereas, The MSMA has sought the passage of medical examiners' legislation to replace the coroner's system in Missouri, and

Whereas, Representative David Rolwing of Mississippi County introduced an excellent medical examiners' bill in the last Missouri Legislature and worked hard for its passage,

Be it resolved, That the MSMA officially commend Representative Rolwing for his efforts and urge reintroduction of this type of legislation in 1967, and

Be it further resolved, That the MSMA seek the support of the Missouri Bar Association and other interested groups in this effort to abolish the coroner's system.

(The motion to adopt was seconded and passed.)

The Resolution concerning alcoholism was amended as follows:

Inasmuch as the disease, alcoholism, is recognized as the fourth greatest public health problem in our nation, and

Inasmuch as it is a problem of immense magnitude and serious nature in the State of Missouri, there being an estimated 160,000 alcoholics in our state and there being affected also the lives of some three or four other human beings for each alcoholic, and

Inasmuch as this disease is the cause of extreme suffering of many individuals and great financial expense to our state, and

Inasmuch as Missouri is the most populous of only seven states remaining without such a program, 43 states already having established one,

Be it resolved, That the Missouri State Medical Association, meeting in its annual session for 1966 in Kansas City, Missouri, petition Governor Warren E. Hearnes requesting that he call upon the various divisions of the Department of Health and Welfare of the State of Missouri to establish a statewide program on alcoholism and that a copy of this Resolution accompany such a petition, and be it also

Resolved, That a Special Committee on Alcoholism be appointed in the Missouri State Medical Association and that the Missouri State Medical Association offer to Governor Warren E. Hearnes the assistance of a member or members in formulation of and operation of such a state program.

(The motion to adopt was seconded and passed.)

The Committee recommended that no action be taken at the 1966 Annual Session on the resolution relating to pornographic and salacious literature, but that the resolution be referred to the MSMA Committee on Mental Health for study and/or recommendations. The motion to approve this recommendation was seconded and passed; and a motion to approve the report of the Reference Committee in full was seconded and passed.

The Speaker invited Dr. Hugh E. Stephenson, Jr. to present the report of the Reference Committee on Medical Education.

MEDICAL EDUCATION AND PUBLIC WELFARE

The Reference Committee on Medical Education and Public Welfare met at 4:45 pm, March 27, in Room 4 of the Muehlebach Hotel.

All members were present. It was recommended that the published reports of the following committees be adopted:

1. Scientific and Postgraduate Work
2. Publications
3. Public Service
4. Cancer
5. Infant and Child Care
6. Control of Venereal Disease
7. Diabetes
8. Maternal Welfare
9. Civil Defense Disaster Medical Care
10. Tuberculosis
11. Rural Medical Service
12. Aging.

The Committee was impressed with many of these reports indicating a considerable bit of constructive activity, which the full benefits will not be obvious to all for some months.

(A motion to adopt this portion of the report was seconded and passed.)

The Committee considered Resolution #9, which was submitted by the St. Louis County Medical Society, and strongly urged adoption of the proposal.

Whereas, The rapid advances in medicine can be fully utilized only when the people are properly informed about them, motivated to use them wisely, and willing to accept personal responsibility for health; and

Whereas, Health instruction in our schools offers a unique opportunity for the teaching of the necessary health concepts and principles to all our people during their formative years; and

Whereas, Good health is essential for the individual to achieve his optimum potential and to make his optimum contribution to community and national welfare; and

Whereas, The American Medical Association, through its Joint Committee on Health Problems in Education with the National Education Association, and other organizations concerned with health education have adopted similar resolutions; and

Whereas, The present discussions through news mediums within our state are stressing the need for venereal disease education, therefore be it

Resolved, That the Missouri State Medical Association recommend to the Missouri Commissioner of Education and the State Board of Education that health become a required course in our school curriculum, and be it further

Resolved, That the State Commissioner of Education be given all the assistance and aid possible by the Missouri State Medical Association to encourage teacher training colleges and universities to prepare more teachers qualified to teach health; and be it further

Resolved, That the Missouri State Medical Association recognizes the need for venereal disease education but strongly recommends that such education be included in the area of communicable diseases in a general health course.

(A motion to adopt was seconded and passed. A motion to adopt the Committee's report as a whole was seconded and passed.)

The Speaker invited Dr. Ernest E. Wadlow to present the report of the Reference Committee on Necrology.

NECROLOGY

The Reference Committee on Necrology met in Room 3, Muehlebach Hotel, Kansas City, Sunday, March 27, at 4:45 pm, with all members of the Committee present.

The following Resolution was adopted by the Committee:

Whereas, There have been seventy deaths among our members since the last annual session, including that of a former vice president and a former treasurer of the Association, and

Whereas, Each member is missed personally and for contributions to the practice of medicine, and

Whereas, The loss of these members is felt by all members and keenly by those who were close to them, and

Whereas, Condolences have been sent to each family, therefore be it

Resolved, That condolences continue to be sent to each family, and be it further

Resolved, That the House of Delegates stand for a moment of silence in memory of those we have lost and whose names will appear in the Minutes of the annual session.

(The motion to adopt the resolution was seconded, and the Speaker asked the House of Delegates to stand for a moment of silence in indication of approval of the motion.)

Members Deceased Since the 1965 Session

Zuber, Harold V., M.D., Kansas City
Deweese, Everett R., M.D., Kansas City
Dempsey, David T., M.D., Kennett

Netherton, George F., M.D., Cameron
Glaser, Martin J., M.D., St. Louis
Alden, Arthur M., M.D., St. Louis
Cibis, Paul A., M.D., St. Louis
Cruvant, Bernard A., M.D., St. Louis
Pittam, Radford F., M.D., Hutchinson, Kansas
Casebolt, Milton B., M.D., Kansas City
Tooker, Charles W., M.D., St. Louis
Stephan, August P., M.D., Jefferson City
Scott, Clive D., M.D., Louisiana
Fisher, George E., M.D., Lebanon
McElvain, Robert C., M.D., Boca Raton, Florida
Albrecht, Franklin H., M.D., St. Louis
Birsner, Louis J., M.D., St. Louis
Williams, Robert A., M.D., Kansas City
Limbaugh, Walter R., M.D., Hayti
Vizgird, Joseph J., M.D., St. Louis
Sale, Llewellen, Sr., M.D., St. Louis
Whitehead, Frank F., M.D., Neosho
Teall, Raymond E., M.D., Kansas City
Black, James M., M.D., Carrollton, Illinois
Meyers, Montague M., M.D., St. Louis
Grogan, Frank M., M.D., St. Louis
McIntyre, Emery J., M.D., Carthage
Lewis, Albert G., M.D., Platte City
Riordan, Lawrence M., M.D., St. Louis
Egley, Loren E., M.D., St. Louis
Hall, Andy Jr., M.D., University City
Williams, Luke E., M.D., Kansas City
Caravelli, Anthony F., M.D., Downey, Illinois
Rice, Grover C., M.D., Brunswick
Canella, John M., M.D., Hannibal
Meluney, Solomon E., M.D., St. Joseph
Foster, Leon, M.D., University City
Jones, George H., M.D., Kansas City
Backlar, Joseph, M.D., Los Angeles, California
Musick, James D., M.D., Springfield
Smith, Clifton, M.D., St. Joseph
Bock, Lux H., M.D., Clayton
Smith, Frank J., M.D., St. Louis
Heideman, Alvah G., M.D., St. Louis
Drace, Charles C., M.D., Webster Groves
Commerford, James J., M.D., Crystal City
Erlanger, Joseph, M.D., St. Louis
Sewing, Arthur H., M.D., St. Louis
Meyer, Oscar D., M.D., St. Louis
Werth, Duncan, M.D., St. Louis
Herrick, Harold C., M.D., LaGrange
Beers, Ellsworth G., M.D., Seymour
Mehan, George T., M.D., St. Louis
Jaime, Nicholas, M.D., Kansas City
Henry, Schubert D., M.D., Kansas City
Delzell, William A., M.D., Willard
Boone, Richard F., M.D., Dallas, Texas
Spence, Elbert L., M.D., Kennett
Fessenden, Ersel M., M.D., Springfield
Turner, Percy C., M.D., Kansas City
Welker, Joseph E., M.D., Kansas City
Langeluttig, Harry V., M.D., Mount Vernon
Stude, William C., M.D., Clayton
Homan, Joseph S., M.D., St. Louis
Proetz, Arthur W., M.D., St. Louis
Clark, Harold B., M.D., Kansas City
Schorer, Edwin H., M.D., Kansas City
Hyndman, Charles E., M.D., St. Louis
Webster, R. W., M.D., Wayward, California
Hobbs, Earl B., M.D., Smithville

The Speaker invited introduction of new business. Dr. George L. Hawkins, Jr. proposed a resolution to reapportion the House of Delegates. It was referred to the Reference Committee on Constitution and By-Laws.

Dr. Billy J. Bass offered three resolutions which resulted from work of the MSMA Committee on Rural Health. One resolution related to installation of medical service location signs along major highways. It was referred to the Committee on Resolutions. The second proposal opposed additional "paper work" or additional drugs to the present federal drug control program. It was referred to the Reference Committee on Resolutions. The third resolution attacked the philosophy of government health programs, especially those involving older persons; and it proposed a study of possible alternatives. This resolution was referred to the Committee on Resolutions.

Dr. Charles B. Wheeler, Jr. introduced two resolutions. One would establish the effective date of Resolution #2, regarding the contracts of hospital-based physicians. The second, seeks to assure continued high standards for medical laboratories. Both resolutions were referred to the Committee on Resolutions.

Dr. Truman B. Schertz presented a resolution proposing legal identification and regulation of paramedical groups in the framework of the Medical Practices Act. It was referred to the Committee on Miscellaneous Affairs.

There being no further business, the Speaker adjourned the Second Session of the House.

THIRD SESSION

Wednesday, March 30

The Third Session of the 1966 meeting of the MSMA House of Delegates was called to order by the Speaker, Doctor Peterson, following a 7:30 AM breakfast in the Grand Ballroom of the Muehlebach Hotel. Doctor Miller reported the presence of a quorum. With unanimous consent, the Speaker dispensed with a roll call and reading of the minutes of the two previous sessions.

Dr. Kenneth C. Hollweg, Chairman of the Nominating Committee, was invited to present the report of his committee.

NOMINATING COMMITTEE

The Nominating Committee met Tuesday afternoon with all members present and prepared the following slate of nominees.

AMA Delegate—Dr. Stanley S. Peterson of Springfield.

Alternate AMA Delegate—Dr. James C. Sisk, St. Louis.

AMA Delegate—Dr. J. Loren Washburn, Versailles.

Alternate AMA Delegate—Dr. Thompson E. Potter, St. Joseph.

Speaker of the House—Dr. Stanley S. Peterson, Springfield.

Vice Speaker—Dr. Paul F. Max, St. Louis.

First Vice President—Dr. Billy J. Bass, Salem.

Second Vice President—Dr. George W. Winn, Boonville.

Third Vice President—Dr. Fred L. Wommack, Crane.

The Speaker invited additional nominations from the floor. Hearing none, he entertained a motion that nominations cease and that a unanimous ballot be cast for the slate as presented by the Nominating Committee. The motion was made, seconded and passed.

The Speaker invited nominations for the office of President-Elect. Dr. Harry Statland nominated Dr. Hector W. Benoit, Jr. of Kansas City. The nomination was seconded by Dr. Leonard T. Furlow. There were no additional nominations and the Speaker asked for a vote on Doctor Benoit. The vote was unanimous and Doctor Benoit was declared elected. He was escorted to the Speaker's stand and made a brief acceptance statement.

The Speaker asked Doctor Mixson to present the final report of the Reference Committee on Constitution and By-Laws.

CONSTITUTION AND BY-LAWS

The Committee considered the resolution on reappointment of the House of Delegates which would require a change in the By-Laws, Chapter III, Section 2. After hearing witnesses, the Committee made one minor change in the resolution and offered the following amended proposal.

Whereas, The governing bodies of the Missouri State Medical Association were created to provide equitable representation in order to secure the greatest good for the practicing physicians in Missouri, and

Whereas, The Missouri State Medical Association Council is composed of one Councilor from each of the ten geographical districts, and

Whereas, The Delegates to the Missouri State Medical Association House are representatives of fifty physicians or a part thereof for each local society, and

Whereas, Every Missouri county is deserving of adequate representation and such representation must continue to remain so, and

Whereas, The complexity of modern day problems, which must be solved by the physicians of the State assembled in the House of Delegates once each year, require a wide range of experience in all phases of medical practice, and

Whereas, It is possible to provide a wider range of experience by enlarging the number of the House of Delegates in proportion to the size of the local society, represented, therefore be it

Resolved, That Chapter III, Section 2 of the By-Laws of the Missouri State Medical Association be amended to read as follows:

"Section 2. Each component county society shall be entitled to send each year, one delegate or one alternate to the House of Delegates for each 50 full paid members or fraction thereof in the Association on December 31 of the previous year, plus one additional delegate or alternate for each 100 members or major fraction thereof, provided, however, that each component society which is composed of two or more county societies shall be entitled to at least one delegate from each of the counties of which it is composed; however, such delegates must reside or practice in the county they represent. Alternate delegates may be elected from the entire membership of the component medical societies."

(The motion to adopt the resolution and thus amend the By-Laws was seconded and passed by unanimous vote.)

The Speaker invited Doctor Sisk to present the final report of the Reference Committee on Resolutions.

RESOLUTIONS

The Resolutions Committee met as instructed yesterday with all members present. It considered and recommends for adoption the resolution of the Committee on Laboratory Medicine.

Whereas, Regulations for Independent Medical Laboratories under Public Law 89-97 have been approved by the Health Insurance Benefits Advisory Council and will be published in the Federal Register, and

Whereas, Such regulations may be challenged by laboratories with low standards, be it

Resolved, That the Council of the MSMA be alerted to study such regulations when published, and to support high standards against any challenges by laboratories with inadequate personnel and standards.

(The motion to adopt was seconded and passed.)

The Committee considered the resolution from Doctor Wheeler relating to hospital-based specialists and recommends adoption.

Whereas, This session of the House of Delegates of the Missouri State Medical Association has passed Resolution #2 concerning hospital based specialists and

Whereas, The individual hospital based specialist must convert the support of this resolution into an ethical contract based on local conditions which will vary from hospital to hospital, therefore be it

Resolved, That the provision stipulating unethical conduct become effective on July 1, 1967.

(The motion to adopt was seconded and passed.)

The Committee considered the Rural Medical Service Committee's resolution relating to federal controls of drugs and recommended adoption as presented.

Whereas, The Harris Bill, H.R. 2, relating to new Federal controls on the use of stimulant and depressant drugs, has been enacted into law; and

Whereas, The new law will require additional paper work of practicing physicians, already overburdened with record-keeping and reports of many kinds; and

Whereas, Legal licensure of a physician by the various states represents a fundamental trust and carries with it the public confidence that he will wisely and properly use, prescribe, or dispense drugs as his patients' need may indicate; now therefore be it

Resolved, That the Missouri State Medical Association, through the American Medical Association, make all possible representations before the proper Federal officials and boards, the elective members of Congress, and the local and state authorities, and couple this with a public educational program to the effect that the volume of paper work required by the new law be kept to a minimum in the regulations by which the law will be implemented; and be it further

Resolved, That the Association cooperate with organized medicine nationally to prevent in the future the unnecessary addition of other drugs to the federally controlled list.

(The motion to adopt was seconded and passed.)

The Committee considered the resolution regarding highway signs to indicate locations of medical assistance and submit the proposal with one minor amendment.

Whereas, The House of Delegates of the American Medical Association at the last clinical session in Philadelphia, adopted a resolution recommending that a standard sign be adopted for use on major highways to indicate the location of hospitals for provision of emergency services; and

Whereas, The word "medical" with or without the caduceus would be suitable for such use; and

Whereas, A symbol, to be effective, should be uniform throughout the country and readily identifiable by all travelers; now therefore be it

Resolved, That the Missouri State Medical Association cooperate, and request its component county societies to cooperate, in supporting the establishment of such a standard highway sign system; and be it further

Resolved, That MSMA recommend to the American Medical Association that the system be extended to indicate the availability of medical services along the highways rather than just the presence of a hospital facility, inasmuch as many small towns on the interstate system have the services of a physician but not a hospital; secondly, definitive service by a physician is usually required, and finally, the physician should be the most knowledgeable source concerning an adequate hospital facility in the area.

(The motion to adopt was seconded and passed.)

The Rural Medical Service Committee's resolution on the implications of current health legislation was amended to read as follows:

Whereas, The senior citizens of this state and nation comprise a sizeable and increasing segment of the population; and

Whereas, Both state and federal governments have, through a multiplicity of programs, attempted to assume a measure of responsibility for the health and welfare of the indigent aged; and

Whereas, These programs remove from the individual almost all decision-making powers, and

Whereas, Good medical judgment and careful observation suggest that this hastens the process of aging and the total deterioration of the individual as a person; and

Whereas, It is the solemn obligation and charge of organized medicine in general, and of the individual physician in particular, to be concerned with all matters affecting the health of the people; now therefore be it

Resolved, That the Missouri State Medical Association and its component societies speak forth through all available public and private media to the effect that although the intent is laudable, from a health standpoint the devices are wrong; be it further

Resolved, That the MSMA and the American Medical Association make every possible effort to educate the government sociologists and economists and the people at large, of the medical importance of maintaining the will, morale, and self-esteem of our older fellow citizens; be it further

Resolved, The MSMA and the American Medical Association conduct a study in depth of this problem and that organized medicine actively encourage serious consideration of alternate devices (such as additional tax credits, a guaranteed cash income above minimum poverty level, et cetera), allowing our capable aged to continue as free decision-makers in a free society rather than as passive recipients of public aid.

(The motion to adopt was seconded and passed; and the motion to adopt the Committee's report in full was seconded and passed.)

The Speaker asked Doctor Stauffacher to make the final report of the Committee on Miscellaneous Affairs.

MISCELLANEOUS AFFAIRS

The Reference Committee on Miscellaneous Affairs reconvened Tuesday, March 29, 1966, at 10:00 AM in Room 364, Muehlebach Hotel, with all members present, and heard further testimony from delegates.

The Resolution which was introduced by Dr. Schertz of Clay County was contemplated, which reads as follows:

Whereas, The judicious and efficient practice of medicine frequently requires the use of certain technical types of equipment and technical tests which can be performed by adequately supervised and adequately trained assistants or technicians, and

Whereas, In the interest of better coordinated professional service, the medical profession has a responsibility to determine and define the need for each ancillary medical group, its functions, its educational standards, and the manner in which its members, whether licensed or unlicensed, are to be recognized and supervised; and

Whereas, The training he has and the license he has obtained impose upon the physician the responsibility and legal right to do anything for the patient that his medical care requires, the principle is asserted that he further has the responsibility and right to delegate to any ancillary medical worker any technical procedure consistent with sound medical practice, and

Whereas, It is characteristic of any licensed ancillary group to seek to enlarge its sphere and secure a monopoly, thereby limiting the physician's freedom to efficiently utilize otherwise adequately trained assistants, and

Whereas, Certain individuals in the State of Missouri rendering technical ancillary services for the medical profession have had their right to do so questioned by certain licensed groups and have been questioned by the courts as to their right to perform these functions inasmuch as they are not legally identified, therefore be it

Resolved, That the legal identification but not autonomous licensure of certain ancillary groups be approved and that this Association develop and introduce model legislation for the purpose of state registration of such ancillary groups as ancillary personnel under the jurisdiction of the Board of Medical Examiners, preferably via the Medical Practice Act, and be it further

Resolved, That standards of training and testing be established for each such ancillary technician under the jurisdiction of the Board of Medical Examiners, all with the consultation of members of the medical profession who will be using the services of such technicians as well as with representatives of any now-existing organized group of such technicians, and be it further

Resolved, That such legislation or action shall apply to the following ancillary groups along with any added in the future as deemed advisable by the Board of Medical Examiners under the Medical Practice Act:

1. Psychologists
2. Physical therapists
3. X-ray or radiology technicians
4. Laboratory technicians
5. Opticians
6. Contact lens technicians
7. Orthoptists,

and be it further

Resolved, That such legislation specifically exempt such groups from any legislation related to other professional or semi-professional groups.

The Committee recommended that this resolution be referred to the Council for further study and to the Legislative Committee if the Council deems this advisable for implementation. It was suggested that the Council carefully consider whether laboratory technicians should be included in the resolution, as well as any other ancillary groups which the Council may see fit to add or delete.

(The motion to adopt this recommendation was seconded and passed.)

The Committee considered Resolution #13 and offers in its place this substitute resolution.

Whereas, The hospital utilization review committees serve somewhat in an administrative capacity as ordered by Public

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Law 89-97 in contradistinction to audit committees which are medical staff mechanisms for review of the quality of patient care, and

WHEREAS, Utilization review committees are ultimately responsible to the Department of H.E.W. or to another third party carrier and are potentially in the position of countermanding the orders of the attending physician and potentially could be made up predominantly of non-physicians, therefore be it

Resolved, That voting members of utilization review committees should consist only of practicing physicians, which may be defined as those who devote the greater portion of their time in their medical or surgical practice to the care of individual patients, and be it further

Resolved, That these practicing physicians be elected from and by their own staffs, and be it further

Resolved, That all physicians participating in any administrative phase of the Federal Social Security Plan, Public Law 89-97, be it a hospital utilization committee or a public arbitration panel, may be fully compensated for their time and services rendered in such insurance administrative capacity role with such compensation as authorized by Section 5 of the Administrative Expenses Act of 1946 for persons in the government service employed intermittently, and be it further

Resolved, That this statement of policy be disseminated to all members of the Missouri State Medical Association and to the Missouri State Hospital Council."

(The motion to adopt the substitute resolution was seconded and passed.)

The Committee considered the revised version of Resolution #16 which proposed that utilization review committees be responsible only for "medicare" patients. The Committee recommended that the resolution be disapproved, and a motion to that effect was seconded and passed.

(The motion to accept the Committee's report in full was seconded and passed.)

The Reference Committees on Medical Education and Public Welfare, and Reports of Officers had no further business to present. The Speaker announced that an item of unfinished business, the question of location of the Association's office, would be considered. Doctor Benoit was invited to the Speaker's stand to discuss the Office Location Committee's Final Report

(The Final Report was printed and distributed to the Delegates late in the afternoon of the previous day.)

FINAL REPORT OF THE COMMITTEE OF THE COUNCIL TO STUDY THE LOCATION OF THE EXECUTIVE OFFICE OF THE MSMA

The Committee appointed by the Council to Study the Location of the Executive Office of the MSMA hereby submits its final report. The First Interim Report of this Committee is published in the handbook. The second Interim Report was submitted as part of the Supplementary Report of the Council and referred to the Reference Committee on Reports of Officers on Sunday, March 27, at the initial meeting of the House of Delegates at this 108th Annual Session. This Second Interim Report is reproduced for the benefit of the House of Delegates.

Since the Second Interim Report was submitted the Committee met on March 28, 1966 and interviewed the following persons: Dr. Donald Dowell, Dr. Leonard T. Furlow, Dr. Kenneth Hollweg, Dr. Byron Stuart and Dr. Paul R. Whitener.

The final report of the Committee is as follows:

I. The Committee feels that there are four basic functions of the Executive Office and the staff.

   A. To serve in an administrative capacity for the Association's functions such as; implementation of the actions of the House of Delegates, the Council, as well as the Standing and Special Committees of the Association, publication of Missouri Medicine, and management of the affairs of the Missouri State Medical Foundation.

   The Committee feels that the location of the state office has no direct bearing on the efficient performance of the intramural aspects of this function. However, the relationship of the MSMA with other associations and voluntary agencies such as the Missouri Hospital Association, The Missouri Bar Association, the Missouri Dental Association, the Missouri Pharmaceutical Association, and others, the large majority of which have their offices in Jefferson City, would be greatly enhanced by the location of the MSMA office in Jefferson City.

   B. To direct and assist the physicians of Missouri in the educational programs of the Association, academic, medico-legal and socio-economic. Also to conduct a public relations program not only for the physicians of the state but also for the general public in such matters. The Committee feels that the location of the State Office is immaterial to the proper conduct of these activities.

   C. To promote close relationship with the Legislative Branch of the State Government. As the result of this investigation the Committee feels that our past relationship with the Senate has been quite effective. The majority of the witnesses indicated it could be improved by year round, day to day contact with the Senate and its interim committee activities.

   They also indicated that our relationship with the House of Representatives had been meager and ineffective. Because of National Legislative programs already enacted and pending it is now imperative that a positive approach to future legislation must be adopted.

   It is apparent to the Committee that closer contact with the members of the House of Representatives is necessary in order to successfully introduce and promote favorable legislation. It is agreed, and the Committee wishes to reemphasize, that the grass roots approach to the legislator not only in supporting his campaigns, but also in providing him with information on specific issues is the best single way to secure enactment of favorable legislation.

   The Committee feels that our staff, full time in Jefferson City, would be more acutely aware of the attitudes and needs of individual legislators, and could thereby alert individual physicians, when necessary, regarding the need for early or urgent contact with specific legislators.

   The Committee further recognizes the inherent risks involved in lobbying activities. These risks would appear to be present whether the office is located in Jefferson City or elsewhere. They can be avoided only by constant and firm adherence to principles of decorum and circumspection in personal relations.

   D. To advise and consult with the various administrative agencies of the State Government, such as the Division of Health, the Division of Welfare, the Division of Mental Diseases, and the Department of Education. The information of the Committee has led it to believe that the scope of activity in this area on the part of the MSMA has already increased and is destined to increase to the point that day by day contact with these agencies will become mandatory. For the most part, this is due to actions taken by and pending before the Congress of the United States. Most directives related to these Federal programs will be administered in Missouri by the State Administrative offices in Jefferson City. The Committee feels that the effective performance of this function of the Executive Office of the MSMA can best be achieved by having this office located in Jefferson City.

II. The Committee has received no indication that the operating costs of the office would increase by moving to Jefferson City. There would be the additional expense of the transfer which has not been estimated at this time.

III. The Committee has been told that four of the eight persons now employed in the Executive Office would be willing to move to Jefferson City, if such a decision was reached. They are Mr. Ray McIntyre, Mr. Allen Smith, Mr. Tom Fox, and Mrs. Bert Thomas. The relationship and responsibilities of Mr. Thomas O'Brien to the MSMA would remain unaltered, with him remaining as Executive Assistant in St. Louis.

IV. The Committee recommends that the Executive Office of the MSMA be moved to Jefferson City. It further recommends that the staff, in close consultation with the offices of the Association, should implement this move as soon as possible, preferably prior to September 1, 1966.

Hector W. Benoit, Jr., M.D., Chairman
Wallace D. English, M.D.
Joseph L. Fisher, M.D.
Robert A. Mayer, M.D.
Doyle C. McCraw, M.D.

A motion was made from the floor that the published report be accepted. It received a second, and after lengthy general discussion it was submitted to a vote and passed.

A question was raised as to the intent of the motion, so the Chair entertained an additional motion to the effect that the Executive Office be moved to Jefferson City. It was seconded and passed.

The officers and councilors were asked to come to the front of the auditorium where the Association Secretary, Doctor Matthews, administered the oath of office.

The President, Doctor Stuart, was invited to announce his committee appointments for the 1966-67 year. Committee members whose terms had not expired were not mentioned and it is assumed that they will continue to serve.

Scientific and Postgraduate Work—John I. Matthews, Jefferson City, Chairman; J. F. McDonnell, Kansas City; Associate Members: E. D. Imes, Maryville; Paul B. Anderson, Neosho; W. Thomas Morgan, Jr., West Plains; Paul H. Rother, St. Charles; Charles P. McGinty, Cape Girardeau; R. A. Slickman, Kansas City; Edward D. Kinsella, St. Louis; Roy Pearse, Jr., Nevada; T. J. Fischer, Hannibal.

Defense—W. W. Gist, Kansas City, Chairman; Max S. Franklin, St. Louis.

Medical Education and Hospitals—William A. Knight, Jr., St. Louis, Chairman; Ralph R. Hall, Kansas City.

Cancer—E. J. Schewe, Columbia, Chairman; John E. Lamy, Sedalia; Joseph L. Fisher, St. Joseph; Associate Members: Charles Gulick, St. Louis; Jose M. Sala, Springfield; G. Neil Berry, Kansas City.

Medical Economics—Herbert C. Wiegand, St. Louis, Chairman; Martin P. Hunter, Kansas City; John Forgrave, St. Joseph; Associate Members: Mary Newman, Cassville; Donald J. Giesler, Osceola; Chester L. Clark, Trenton; C. O. Vermillion, St. Louis; Charles Miller, Jr., Kirkwood; W. J. Ferguson, Sikeston.

Councilors James C. Cope of Columbia and Doyle C. McCraw of Bolivar discuss some of the problems of planning and implementing effective relations with mass communication media and the general public. Doctor McCraw is Chairman of the Public Service Committee.

Mental Health—Henry V. Guhleman, Jefferson City, Chairman; Paul W. Hayes, St. Joseph; James N. Haddock, St. Louis; Robert D. Brookes, St. Louis; D. R. Edwards, Sedalia; James B. Allison, Springfield; Paul L. Barone, Nevada; Edward T. Auer, St. Louis; Robert S. Terrill, Kansas City; Joseph B. Kendis, St. Louis; Marie Mowrer, St. Louis.

Maternal Welfare—A. C. Trueblood, Clayton, Chairman; Irwin T. Craig, Joplin; Associate Members: C. G. Stauffacher, Sedalia; Edward M. Grim, Kirksville; MacDonald Bonebrake, Springfield; E. E. Wadlow, St. Joseph; Paul E. Kratz, Cape Girardeau; Eugene G. Hamilton, St. Louis; Lyman D. Brown, Springfield; Robert S. Brown, Kansas City; Seymour Monat, St. Louis; Leonard A. Wall, Kansas City.

Infant and Child Care—James A. Kinder, Cape Girardeau, Chairman; E. J. Schwartz, Springfield; James K. Mann, Hannibal; H. E. Petersen, St. Joseph; Chester P. Lynxwiler, St. Louis; Guy N. Magness, University City; Ray B. Lewis, Columbia; James J. Pascoe, Nevada; Barbara E. Russell, Rolla; Gerald E. Hughes, Kansas City; Associate Members: C. Read Boles, Clayton; Ben H.

Koon, Bolivar; Ernest L. Glasscock, Kansas City; Willard B. Avery, Boonville.

Constitution and By-Laws—Kenneth C. Hollweg, Kansas City, Chairman; W. A. Bloom, Fayette.

Trauma—Glenn L. McElroy, Columbia, Chairman; Richard E. Lord, St. Louis; Wilbur P. McDonald, St. Joseph; Paul C. Miltenberger, Kennett; Associate Members: E. M. Dillard, Springfield; Carl M. Peterson, Kansas City; Maurice F. Perll, Kansas City; James O. Lottes, St. Louis; L. P. Hetlage, Troy.

Eye Health—Flavius G. Pernoud, St. Louis, Chairman; Paul C. Wolff, Cape Girardeau; Associate Members: John R. Rufe, Kansas City; Wilbur H. Lewin, St. Louis; D. E. Eggleston, Macon; John D. Maddox, Joplin; George Mandler, Chillicothe; H. B. Stauffer, Jefferson City; Robert Stewart, Springfield; Truman B. Schertz, North Kansas City.

Laboratory Medicine—William R. McPhee, Kansas City, Chairman; Henry Allen, Clayton; Richard V. Riddell, St. Joseph.

Industrial Health—Paul J. Centner, Kansas City, Chairman; Richard A. Sutter, University City; John W. Berry, St. Louis; Associate Members: Horace A. Lowe, Jr., Springfield; C. R. McAdam, St. Louis; William P. Folck, Kansas City.

Diabetes—Harold K. Roberts, St. Louis, Chairman; H. E. Oppenheimer, Clayton; Associate Members: William H. Olmstead, St. Louis; Loren Broaddus, Springfield; E. Lee McCorkle, Marshall; Charles F. Wilson, Cape Girardeau.

Anesthesiology—W. W. Tillman, Jr., Springfield; Carl K. Ness, St. Joseph; Associate Members: George R. Weeks, Cape Girardeau; Robert B. Dodd, St. Louis; Edwin E. Bowe, Jefferson City.

Control of Venereal Disease—Edwin M. Powell, Springfield, Chairman; John Martin, St. Joseph; Associate Member: J. E. Bumgarner, Columbia.

Physical Medicine and Rehabilitation—Edward B. Shires, Kansas City, Chairman; John W. Deyton, St. Louis; Associate Members: Nicholas S. Pickard, Kansas City; James T. Leslie, Jr., Jefferson City.

Disaster Medical Care and National Defense—George L. Watkins, Farmington, Chairman; Carl D. Siegel, Kansas City; John T. Crowe, Cape Girardeau; Carroll P. Hungate, Kansas City; Wm. F. Bell, Lee's Summit; B. L. Murphy, Hannibal; Curtis H. Lohr, Clayton; R. Ned White, Springfield; George E. Thoma, St. Louis; O. P. Hampton, St. Louis; J. S. Sanders, Jefferson City; John L. Mothershead, St. Joseph; Robert R. Donley, Monett.

Aging—Stanley S. Peterson, Springfield, Chairman; Ralph Perry, Kansas City; C. Thorpe Ray, Columbia; Associate Members: Robert H. Tanner, Jefferson City; John A. Griffith, Kansas City; John W. Daake, St. Louis; J. H. Summers, Lebanon; Logan Mayfield, Crystal City; C. A. Nester, St. Louis.

Radiology and Ionizing Radiation—Mark D. Eagleton, Clayton, Chairman; Harold Rapp, Cape Girardeau; Associate Members: Wayne K. Tice, Independence; Sam Merenda, St. Louis.

Tuberculosis—Florence E. MacInnis, Kansas City, Chairman; Paul Murphy, St. Louis; Joseph L. Lucido, St. Louis; Walter C. Gray, St. Louis; William A. Werner, St. Louis; John W. Polk, Springfield; Sheldon B. Beecher, Poplar Bluff; Judson I. Chalkley, Columbia; C. A. Brashear, Mount Vernon.

Study of Cardiac Disease—James G. Janney, St. Louis, Chairman; Earl L. Loyd, Jefferson City; R. E. Stufflebaum, Springfield; William J. Shaw, Sr., Fayette; Jack M. Martt, Columbia; W. L. Mundy, Kansas City; Wm. J. Gillespie, St. Louis; Caryl A. Potter, St. Joseph; F. J. Biggs, Poplar Bluff; Joseph C. Edwards, St. Louis; J. Tenbrook King, Kansas City.

Rural Medical Service—B. J. Bass, Salem, Chairman; J. Marshall Jung, Illmo; James H. Sweiger, Maysville; K. S. Latham, California; H. F. Hoelscher, Warrenton; James E. Campbell, Macon; Charles A. Worley, Sweet Springs; T. M. MacDonnell, Marshfield.

The Speaker announced that the next Annual Session of the Association would be held from April 6 to 9 1967, starting on Thursday and running through Sunday.

Dr. George L. Hawkins, Jr., speaking for the St. Louis Medical Society, invited the Association to hold the 1967 Session in St. Louis. The motion to accept the invitation was seconded and passed.

There being no additional business, the Speaker declared the 1966 Session adjourned.

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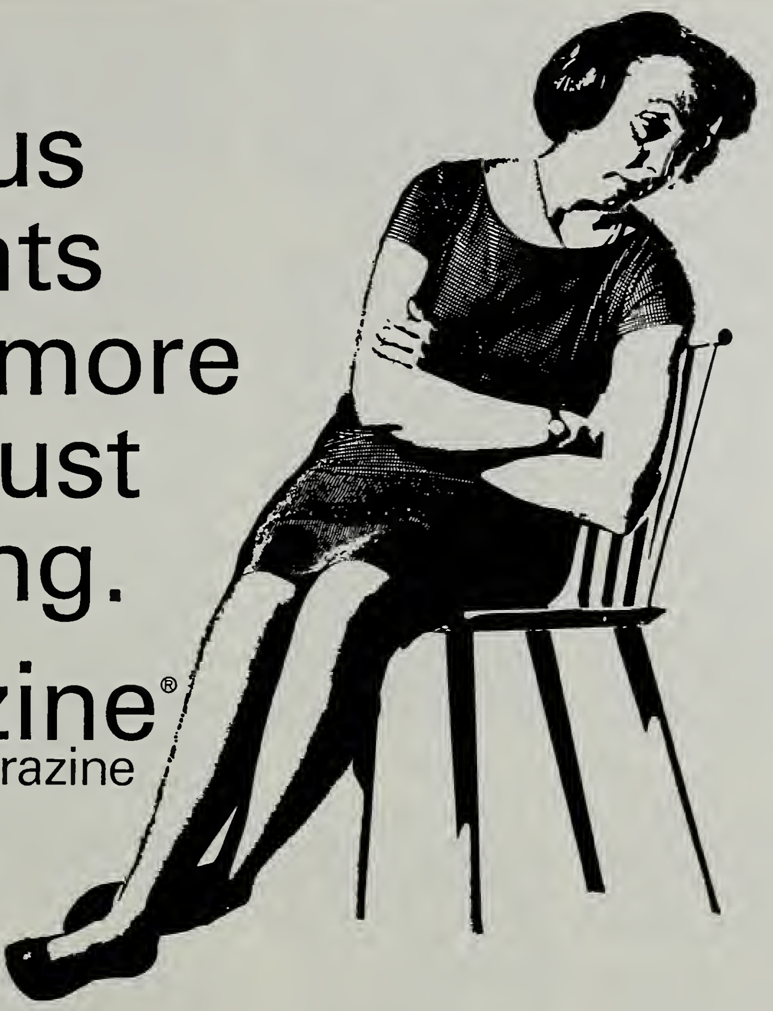

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REGISTRATION AT THE 108TH ANNUAL SESSION

First Councilor District—46

Allen, E. Warren, Carrollton
Ames, Mary B., St. Joseph
Baker, Warren C., Savannah
Beheler, Edward M., St. Joseph
Bohnsack, Ralph W., Brookfield
Bruce, Paul C., Excelsior Springs
Carlin, Albert L., Stanberry
Clark, C. L., Trenton
Conrad, Joseph A., Chillicothe
Craig, Owen, St. Joseph
Cross, Albert D., Trenton
Dixon, John R., Brookfield
Dowell, Donald M., Chillicothe
Dunshee, R. E., Maryville
Dwyer, R. D., N. Kansas City
Daley, Frank, Hamilton
Ellsworth, Willard, Cainsville
Fisher, Joseph L., St. Joseph
Gearhart, Merriam, Bethany
Grimes, M. E., St. Joseph
Hedges, Richard C., Excelsior Springs
Howel, B. D., Brookfield
Imes, E. D., Maryville
Kelley, Ralph R., Savannah
Luckenbill, P. T., Plattsburg
McArtor, T. R., Browning
McDonald, Wilbur P., St. Joseph
Maginn, Richard L., St. Joseph
Mandler, George, Chillicothe
Martin, John, St. Joseph
Matteson, Frank, Grant City
Morgan, Troy, Albany
Mothershead, John L., St. Joseph
Mundy, Homer F., St. Joseph
Petersen, H. E., St. Joseph
Pettit, Manson B., St. Joseph
Pfeffer, Robert I., St. Joseph
Platz, John H., Carrollton
Redmond, William, St. Joseph
Rost, William B., St. Joseph
Schertz, T. B., N. Kansas City
Sklenar, Donald E., St. Joseph
Spalding, W. B., Plattsburg
Vandiver, V. D., Chillicothe
Wadlow, Ernest E., St. Joseph
Williams, Robert D., Smithville

Second Councilor District—21

Bach, Lysle M., Hannibal
Barnett, F. A., Paris
Casner, V. H., Kirksville
Cohrs, C. C., Moberly
Davis, Landis Y., Canton
Day, John K., Bowling Green
Dreyer, Philip V.,Huntsville
Eggleston, Don E., Macon
Fleming, Thomas S., Moberly
Foreman, Phillip B., Hannibal
Freeman, Spencer L., Kirksville
Hamlin, Wyeth, Hannibal
Huber, L. E., Moberly
Isom, Waldo B., Knox City
Jolly, Ben, Mexico
Lankford, Harold D., Mexico
Lewellen, Charles H., Louisiana
Murphy, Bernard L., Hannibal
Plowman, Edward M., Hannibal
Rowlette, Avery P., Moberly
Tendai, Mark M., Kirksville

Third Councilor District—72

Allen, Henry C., Clayton
Arneson, A. N., St. Louis
Bartlett, Robert W., St. Louis
Berry, John W., Clayton
Bondurant, Bryce, St. Louis
Bradley, Richard V., St. Louis
Brennan, Robert V., Kirkwood
Burmeister, R. William, St. Louis
Cherre, Charles J., St. Louis
Cole, William, St. Louis
Cooper, Thomas J., St. Louis
Costello, Joseph P., St. Louis
Devine, Joyce E., St. Louis
Eberle, John P., St. Louis
Ernst, Edwin C., Sr., St. Louis
Felix, Robert H., St. Louis
Finnegan, Joseph V., St. Louis
FitzGerald, Leo P., University City
Franklin, Max S., St. Louis
Furlow, Leonard T., St. Louis
Gildea, Edwin F., St. Louis
Griggs, James, Clayton
Gulick, Charles R., S. Louis
Gunn, Walter T., St. Louis
Haddock, James N., Webster Groves
Hawkins, George L., Jr., Webster Groves
Huck, Richard, St. Louis
Jost, Charles, St. Louis
Karl, Michael, St. Louis
Kelly, R. Emmet, St. Louis
Kerr, David N., Clayton
Kienzle, E. C., St. Louis
Kinsella, Edward D., St. Louis
Kinsella, Ralph, St. Louis
Ladd, Charles B., St. Louis
Loeb, Virgil, Jr., St. Louis
Lonsway, Maurice J., Jr., St. Louis
Lottes, J. Otto, St. Louis
Luedde, Philip S., St. Louis
McAfee, Alan, St. Louis
Max, Paul F., St. Louis
Melick, William F., St. Louis
Merenda, Sam J., St. Louis
Miller, Charles, Kirkwood
Monafo, William, St. Louis
Morris, Mary E., St. Louis
Mueller, Robert, St. Louis
Muether, Raymond O., St. Louis
Neilson, Arthur W., Clayton
Nester, Charles A., St. Louis
Nicolai, Charles H., St. Louis
Norton, William H., St. Louis
Olmstead, William H., St. Louis
O'Leary, J. L., St. Louis
O'Neal, Lawrence W., Clayton
Peeler, James O., St. Louis
Pernoud, Flavius G., Clayton
Pernoud, Michael F., St. Louis
Powers, William E., St. Louis
Repetto, Albert, St. Louis
Ritter, Hubert A., St. Louis
Roth, John J., St. Louis
Sanders, Robert D., St. Louis
Sanders, T. E., St. Louis
Schaefer, Glennon, Richmond Heights
Schattyn, Martyn, St. Louis
Sexton, Daniel L., St. Louis
Sherman, Alfred I., St. Louis
Sherwin, Charles S., St. Louis
Summers, John B., St. Louis
Thompson, J. William, St. Louis
Vermillion, Crofford O., Kirkwood

Fourth Councilor District—47

Anwar, Shah, St. Louis
Bailey, W. H., St. Louis
Boles, C. Read, Clayton
Creech, J. C., Troy
Damron, E. O., Elsberry
Danis, Peter G., St. Louis
Davis, Edgar W., St. Louis
Donnell, Harold, DeSoto
Eller, C. Howe, St. Louis
Diehr, Maurice A., St. Louis
Ellis, Calvin C., St. Louis
Hoelscher, H. F., Warrenton
Howe, Louis F., Brentwood
Jones, Victor, Brentwood
Kaskie, Clifford R., Clayton
Keller, R. M., Wentzville
Kendis, Joseph B., St. Louis
Kimelman, Nathan, St. Louis
Klippel, Allen P., Clayton
Koch, Robert E., St. Louis
Lewin, W. Howard, St. Louis
Lord, Richard, St. Louis
McElfresh, Arthur E., St. Louis
Magness, Guy N., St. Louis
Marcus, M. D., St. Louis
Mattis, Robert D., St. Louis
Mayer, Robert A., St. Louis
Mayfield, J. Logan, Crystal City
Miles, Paul W., St. Louis
Moore, Walter L., St. Louis
Muench, L. O., Washington
Nakada, James R., Clayton
Richardson, William R., Union
Rother, Paul H., St. Charles
Stein, H. J., St. Louis
Sterling, John A., Kirkwood
Sisk, James, Clayton
Sutter, Richard A., St. Louis
Tobias, Norman, St. Louis
Trueblood, A. C., Jr., Kirkwood
Valach, Frank J., Brentwood
Vitale, Nicholas S., St. Louis
Whitener, Miles C., St. Louis
Whitener, Paul R., St. Louis
Workman, George M., Hermann
Wyatt, Lois C., Kirkwood
Yoskit, Harry, Festus

Fifth Councilor District—65

Allen, William C., Columbia
Arnold, R. C., Columbia
Asel, Norman D., Columbia
Baker, A. Sherwood, Columbia
Belden, E. A., Jefferson City
Black, Samuel P. W., Columbia
Bloom, William A., Fayette
Brooke, Clement E., Columbia
Buesseler, John A., Columbia
Bynum, William R., Columbia
Cope, James C., Columbia
DeWeese, M. S., Columbia
Dwyer, Thomas L., Mexico
Durst, Henry, Fulton
Ekern, H. Peter, Mexico
Exon, C. Stuart, Jefferson City
Gallagher, Lionel M., California
Garner, Lynn, Jefferson City
Gentry, M. L., Jefferson City
Gordon, James S., Jefferson City
Griffin, William T., Columbia
Guhleman, Henry V., Jr., Jefferson City
Guthrie, Richard A., Columbia
Jackson, Robert L., Columbia
Jackson, Vernon B., Fulton
Kanagawa, H., Jefferson City
Keown, Kenneth, Columbia
Leslie, James T., Jr., Jefferson City
Litton, Lynn O., Columbia
Loyd, Earl, Jefferson City
Lyle, Ray, Versailles
Matthews, John, Jefferson City
Maxey, Hugh W., Jefferson City
Meinershagen, C. W., Jefferson City
Melia, B. J., Jr., Jefferson City
Miller, LeRoy J., Columbia
Mitchell, Frank, Columbia
Neal, M. Pinson, Columbia
Ray, C. Thorpe, Columbia
Ridings, G. R., Columbia
Rodes, Ned, Mexico
Russell, J. P., Jefferson City
Sabates, Felix N., Columbia
Sanders, Jack S., Jefferson City
See, William B., Columbia
Spratt, John S., Jr., Columbia
Shull, G. Donald, Jefferson City
Stephenson, Hugh E., Jr., Columbia
Shaw, William J., Fayette
Stuart, Byron M., Boonville
Sydow, Henry, Fulton
Tanner, R. H., Jefferson City
Tellez, Edward R., Fulton
Templeton, Arch W., Columbia
Tuttle, Jay F., Fulton
VanLeeuwen, G., Columbia
Walters, John H., Columbia
Walters, Laura, Columbia
Watts, Byron E., Jefferson City
Wayland, Thomas, Camdenton
White, J. Earle, Columbia
Wilson, George P., Columbia
Washburn, J. Loren, Versailles
Winn, George W., Boonville
Wood, George F., Fulton

Sixth Councilor District—44

Aiken, George, Marshall
Allen, Claude J., Rich Hill
Allen, William H., Nevada
Barger, O. B., Harrisonville
Bradshaw, W. D., Clinton
Brady, H. S., Concordia
Campbell, Albert J., Sedalia
Cook, Thomas B., Richmond
Crozier, Frank, Richmond
Eklund, A. W., Pleasant Hill
Eldenburg, Donald, Sedalia
Fisher, Stanley D., Sedalia
Folkner, A. L., Warrensburg
Geisler, Don H., Osceola
Gonser, Karl B., Sedalia
Hansen, A. L., Butler
Haynes, Robert, Marshall
Hollingsworth, Ray S., Clinton
Johnson, Charles S., Warrensburg
Jones, Edna M., Clinton
Jones, Edward S., Harrisonville
Kelling, Douglas, Waverly
Kelling, Jordan, Waverly
King, Richard H., Clinton
Knipschild, B. F., Marshall
Koppenbrink, Walter E., Higginsville
Lawrence, R. John, Marshall
Lederer, Charles M., Warrensburg
McBurney, C. Alex, Slater
McCorkle, E. Lee, Marshall
Maddox, R. Albert, Sedalia
Magee, Robert L., Eldorado Springs
Martin, W. E., Odessa
Richter, William B., Stockton
Roberts, Paul A., Sweet Springs
Shipp, Robert H., Warrensburg
Siegel, Carl D., Sedalia
Smith, James O., Clinton
Smith, William J., Windsor
Stauffacher, C. G., Sedalia
Tracy, Herbert A., Belton
Walker, George S., Clinton
Wheeler, Robert L., Harrisonville
Wray, Rolla B., Nevada

Seventh Councilor District—174

Abella, Ben Z., Kansas City
Aisenstadt, E. Albert, Kansas City
Allen, S. Lloyd, Kansas City
Andrews, Berneil W., Kansas City
Andrus, Bailey C., Kansas City
Angles, Luis E., Kansas City
Arnold, John, Kansas City
Arms, Arnold, Kansas City
Atcheson, Bellfield, Kansas City
Atwell, Floyd C., Kansas City
Baer, Alvin J., Kansas City
Balhuizen, John, Kansas City
Bareis, R. J., Marshfield
Barelli, Pat A., Kansas City
Barnett, Gordon P., Kansas City
Becker, Richard R., Kansas City
Bell, William F., Lee's Summit
Benoit, Hector W., Jr., Kansas City
Bergmann, Victor H., Kansas City
Berry, Maxwell G., Kansas City
Biggs, Alfred D., Kansas City
Boutros, Amin, Kansas City
Brams, Jack B., Kansas City
Brewster, Charlotte, Kansas City
Brown, Robert S., Kansas City
Brumm, Lawrence W., Kansas City
Bruner, Robert E., Kansas City

Buckingham, W. W., Kansas City
Buhler, Victor B., Kansas City
Bunting, Williston, Kansas City
Butcher, Robert W., Kansas City
Byers, P. L., Kansas City
Caldwell, John K., Kansas City
Carlson, Hjalmar E., Kansas City
Carrier, Edson C., Kansas City
Castillo, Michael E., Kansas City
Clarke, Albert J., Prairie Village, Kansas
Coffey, Ralph R., Kansas City
Cohen, Harry K., Kansas City
Colom, George A., Kansas City
Cortner, Mary C., Kansas City
Counsell, Chester M., Kansas City
Culbertson, William F., Kansas City
Dorsch, E. H., Independence
Downey, James W., Kansas City
Durnell, M. D., Lee's Summit
Eldridge, Charles J., Kansas City
Elliott, R. Glenn, Kansas City
Engelking, David F., Raytown
Engelmann, Calvin E., Kansas City
Eshelman, Albert D., Independence
Eubank, David F., Raytown
Eubank, William R., Kansas City
Fakhoury, Donald A., Kansas City
Farnsworth, J. J., Kansas City
Feist, George V., Kansas City
Fowler, James W., Kansas City
Fritzlen, Thomas J., Kansas City
Ganley, W. C., Kansas City
Gilkey, Harry M., Kansas City
Gist, William W., Kansas City
Glasscock, Ernest L., Kansas City
Gottsch, Joseph C., Kansas City
Grabske, Charles F., Independence
Greene, W. Wallace, Kansas City
Griffith, John A., Jr., Kansas City
Growdon, John A., Kansas City
Haight, John M., Kansas City
Hall, Ralph R., Kansas City
Hannas, R. R., Kansas City
Haynes, S. E., Kansas City
Hesser, Herbert H., Kansas City
Hickerson, William H., Independence
Hodgson, Frank H., Kansas City
Hoeper, Sam D., Kansas City
Hoffmann, R. Lee, Prairie Village, Kansas
Hogue, Frank S., Kansas City
Hollweg, Kenneth C., Kansas City
Hughes, Gerald E., Kansas City
Hungate, Carroll P., Kansas City
Hunt, Claude J., Kansas City
Hunt, Thomas R., Kansas City
Hunter, Martin P., Kansas City
Hustead, Robert F., Leawood, Kansas
Jansen, Robert, Kansas City
Kantor, Samuel, Kansas City
Keairnes, Harold W., Independence
Ketcham, W. M., Kansas City
Kettner, Edward G., Kansas City
Kiene, Richard H., Kansas City
Knight, John S., Kansas City
Knight, Lyle B., Lee's Summit
Korth, W. M., Kansas City
Kranson, Seymour J., Independence
Lambert, Marian, Kansas City
Lapi, Angelo, Kansas City
Lapp, Harry C., Kansas City
Leitch, C. G., Blue Springs
Leo, William A., Kansas City
Lichtor, Alexander, Kansas City
Long, R. Stacy, Kansas City
Lytton, George J., Kansas City
McCanse, Andrew, Kansas City
McCoy, Frederick J., Kansas City
McCracken, S. R., Excelsior Springs
McDonnell, John F., Kansas City
McPhee, William R., Kansas City
McVay, James R., Kansas City
McVay, James R., Jr., Kansas City
MacInnis, Florence E., Kansas City
Marks, Mark M., Kansas City
Masucci, Joseph M., Kansas City
Mathewson, Hugh S., Kansas City
Mayer, John H., Jr., Kansas City
Medlicott, William J., Kansas City
Meyer, Paul W., Kansas City
Miles, George O., Kansas City
Miller, Clint L., Lee's Summit
Miller, Gerald L., Kansas City
Miller, Giselle, Kansas City
Mixson, William C., Kansas City
Morley, Fred H., Kansas City
Multhauf, C. Joseph, Mission, Kansas
Neighbor, Ernest G., Shawnee Mission, Kansas
Neighbor, G. P., Kansas City, Kansas
Newman, Robert L., Kansas City
Nigro, D. M., Kansas City
O'Neil, James H., Kansas City
Parker, Hubert M., Kansas City
Perry, Ralph, Kansas City
Pileggi, F. A., Kansas City
Pipkin, Garrett, Kansas City
Potter, L. G., Kansas City
Raich, Robert A., Kansas City
Reister, Philip D., Kansas City
Reister, Dorothy D., Shawnee Mission, Kansas
Roberts, Harold M., Kansas City
Robinson, G. Wilse, Kansas City
Rubin, Sidney, Kansas City
Russell, James, Kansas City
Sasano, J. R., Jr., Prairie Village, Kansas
Shapiro, L. M., Kansas City
Stockwell, A. Lloyd, Kansas City
Slickman, R. A., Kansas City
Shireman, Kenneth L., Kansas City
Stacey, W. R., Independence
Schillie, Gene A., Kansas City
Shypper, Moses J., Kansas City
Smull, Ned W., Kansas City
Smith, Othello D., Kansas City
Stein, Joseph W., Kansas City
Stelmach, Walter J., Kansas City
Statland, Harry, Kansas City
Shelden, Russell D., Kansas City
Sportsman, W. L., Kansas City
Summers, Caldwell B., Kansas City
Tarson, S. S., Overland Park, Kansas
Tesson, James A., Kansas City
Trippe, H. C., Kansas City
Trowbridge, B. C., Kansas City
Underwood, Dick H., Kansas City
Wakefield, F. H., Kansas City
Walker, James C., Kansas City
Wheeler, Charles B., Jr., Kansas City
White, Charles H., Prairie Village, Kansas
Whitney, John M., Kansas City
Wilhelm, Warren F., Kansas City
Williams, Frank R., Kansas City
Williams, George P., Kansas City
Willoughby, James W., Kansas City
Willoughby, Jean B., Kansas City
Winkelman, Esther, Kansas City
Youll, Donald V., Kansas City
Young, Chester L., Kansas City, Kansas

Eighth Councilor District—44

Anthony, Dallas D., Springfield
Ashley, Thomas F., Springfield
Bonebrake, McDonald, Springfield
Brasher, Charles A., Mt. Vernon
Callaway, Guy D., Jr., Springfield
Carnes, Victor M., Joplin
Cohle, Richard R., Carthage
Crain, James W., Branson
Crispell, Lawrence S., Joplin
Ferrell, Thomas E., Springfield
Glover, Kenneth, Mt. Vernon
Graves, Arthur, Mt. Vernon
Griffin, O. A., Buffalo
Griffin, Evelyn, Buffalo
Grubb, Paul H., Joplin
Hall, Durward G., Springfield
Johnson, Bill, Springfield
Knabb, Harris E., Springfield
Knabb, Kenneth E., Springfield
Lockhart, Charles E., Springfield
Lurie, Hal, Springfield
McCraw, Doyle, Bolivar
McNeel, Lee A., Jr., Greenfield
McNew, W. T., Carthage
Macdonnell, T. M., Marshfield
Maddox, John D., Joplin
Maher, Robert W., Springfield
Maple, Francis M., Springfield
Menchetti, Don E., Springfield
Moseley, F. Thomas, Springfield
Neu, Leo T., Jr., Springfield
Papp, Sandor D., Joplin
Patterson, Grover S., Carthage
Peterson, Stanley S., Springfield
Post, Winfred L., Joplin
Powell, Edwin, Springfield
Powell, Robert G., Joplin
Snead, William H., Springfield
Waterfield, Jim, Springfield
Whitten, M. Foster, Carthage
Wieman, Harry K., Joplin
Williams, John W., Jr., Springfield
Wommack, Fred L., Crane
Yancey, Daniel L., Springfield

Ninth Councilor District—13

Bass, B. J., Salem
Cooper, C. W., Thayer
Froelich, R. W., Lebanon
Hope, James L., Lebanon
Miller, Harold W., Willow Springs
Morgan, W. Thomas, West Plains
Russell, Barbara E., Rolla
Smith, Rollin H., West Plains
Spears, Joe L., Cabool
Stricker, E. A., St. James
Smith, G. Franklin, Willow Springs
Summers, J. H., Lebanon
Wall, Joe A., Houston

Tenth Councilor District—25

Bull, Ben M., Ironton
Burford, Edwin K., Cape Girardeau
Chastain, Charles W., Farmington
Cresswell, George F., Potosi
Crowe, John T., Cape Girardeau
Dettmer, Robert F., Ironton
English, W. D., Cardwell
Hansbrough, E. T., Poplar Bluff
Jung, J. Marshall, Illmo
Kasten, Melvin C., Cape Girardeau
Kneibert, F. L., Poplar Bluff
Legner, Stanley G., Perryville
Lutkewitte, J. F., Ste. Genevieve
McLain, B. M., Poplar Bluff
Michaelis, Charles E., Fredericktown
Nunnelly, Gordon M., Cape Girardeau
Osborn, Retus W., Farmington
Parks, Stephen, Sikeston
Rapp, Harold B., Cape Girardeau
Reeder, Charles C., New Madrid
Ritter, Raymond A., Cape Girardeau
Seabaugh, William O. L., Cape Girardeau
Shoss, Milton, Cape Girardeau
Sarno, Samuel M., Sikeston
Turner, Kirby L., Potosi

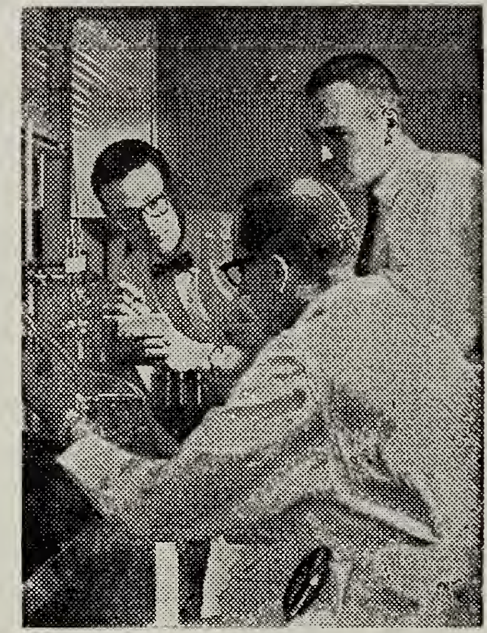
Guest Physicians—18

Batson, O. V., Philadelphia, Pa.
Baster, Bernard S., Pueblo, Colo.
Berger, Dan L., Shawnee Mission, Kansas
Cannady, Edward W., E. St. Louis, Ill.
Delmonico, Michael L., Norwich, N. Y.
Engstrom, William W., Elm Grove, Wisc.
Hillman, William, Nashville, Tenn.
Hollander, Joseph L., Philadelphia, Pa.
Howard, Ernest B., Chicago, Ill.
Leis, Henry P., Jr., New York, N. Y.
McCurry, J. H., Cash, Ark.
Murphy, P. S., Kansas City
Namdarian, Dolly, Jefferson City
Polley, Howard F., Rochester, Minn.
Ranney, Brooks, Yankton, S. Dak.
Seegmiller, J. E., Bethesda, Md.
Stewart, Allen T., Norman, Okla.
Wolf, Stewart, Oklahoma City, Okla.

There were 553 members registered, 18 guest physicians, 2 students, 3 residents and interns, 165 exhibitors, 212 medical technologists, 182 Woman's Auxiliary, 102 guests, making a total registration of 1,236.

108TH ANNUAL SESSION EXHIBITORS

Abbott Laboratories, North Chicago, Ill.
Aloe Division of Brunswick Corp., St. Louis
Arnar-Stone Laboratories, Mount Prospect, Ill.
Blue Cross-Blue Shield, Kansas City
Ciba Pharmaceutical Co., Summit, N. J.
City National Bank & Trust Co., Kansas City
The Coca-Cola Co., Atlanta, Ga.
Control-O-Fax Accounting System, Waterloo, Iowa
Dome Laboratories, Inc., New York, N. Y.
D. M. Doyle Pharmaceutical Co., Minneapolis, Minn.
Eaton Laboratories, Norwich, Conn.
Emko Co., St. Louis
Encyclopaedia Britannica, Inc., Chicago, Ill.
Flint Laboratories, Morton Grove, Ill.
Geigy Pharmaceuticals, Yonkers, N. Y.
E. F. Hutton & Co., Kansas City
Mead Johnson Laboratories, Evansville, Ind.
Lederle Laboratories, Pearl River, N. Y.
Eli Lilly and Co., Indianapolis, Ind.
McNeil Laboratories, Inc., Fort Washington, Pa.
Mallinckrodt Pharmaceuticals, St. Louis
The Medical Protective Co., Fort Wayne, Ind.
Merck Sharp & Dohme, West Point, Pa.
Midwest Piper Sales, Inc., Wichita, Kan.
Miller Pharmacal Co., Inc., St. Louis
North American Pharmacal, Inc., Dearborn, Mich.
Ortho Pharmaceutical Corp., Raritan, N. J.
Parke, Davis & Co., Detroit, Mich.
Postal Investment Co., Jefferson City
William P. Poythress & Co., Richmond, Va.
Roche Laboratories, Nutley, N. J.
J. B. Roerig & Co., New York, N. Y.
William H. Rorer, Inc., Fort Washington, Pa.
Philips Roxane Laboratories, Columbus, Ohio
Sandoz Pharmaceuticals, Hanover, N. J.
W. B. Saunders Co., Philadelphia, Pa.
G. D. Searle and Co., Chicago, Ill.
Shering Corp., Bloomfield, N. J.
Slaten Instrument Manufacturing Co., Milwaukee, Wisc.
Smith Kline & French Laboratories, Philadelphia, Pa.
Smith, Miller & Patch, Inc., New York, N. Y.
E. R. Squibb & Sons, New York, N. Y.
The Stuart Co., Pasadena, Calif.
Syntex Laboratories, Inc., Palo Alto, Calif.
United Medical Equipment, Kansas City
The Upjohn Co., Kalamazoo, Mich.
U. S. Vitamin & Pharmaceutical Corp., New York, N. Y.
Wallace Laboratories, Cranbury, N. J.



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Missouri State Medical Foundation

Minutes of the Annual Meeting
Muehlebach Hotel, Kansas City
March 28, 1966

The meeting was called to order by Ben Bull, M.D., President, at 5:30 PM. A quorum was declared present. Dr. Bull stated that the minutes of the 1965 Annual Meeting were published in the July 1965 issue of MISSOURI MEDICINE. Dr. Bull called for any additions or deletions to the minutes. There being none, the minutes of the 1965 meeting were declared approved as published.

Dr. Bull reported that a letter to all members of the MSMA over the signature of the President of the Foundation, soliciting donations to the Foundation was mailed in early December, 1965. He stated that the results of this mailing were somewhat disappointing, and that many doctors feel they are supporting the Foundation through the MSMA $7.50 per year assessment.

Dr. Bull directed attention to the financial status of the Foundation as of January 31, 1966. A mimeographed copy of the statement had previously been passed out to those in attendance and reads as follows:

RECEIPTS AND DISBURSEMENTS 1/1/65 THROUGH 1/31/66

Cash Balance on hand 1/1/65			$20,454.39
INCOME—1965			
MSMA Assessment, balance 1964		$7,974.83	
MSMA Assessment, 1965		24,500.00	
Contributions Received:			
Physicians	$2,435.00		
Medical Societies	200.00		
Polio Clinics	11,245.00		
Other	585.00	14,465.00	
Loan Repayments		5,241.61	
Interest on Loans		1,232.28	53,413.72
Total Income, 1965			$73,867.11
Income 1/1/66-1/31/66			2,620.44
			$76,488.55
Disbursements—1965:			
Loans issued, through 12/31/65 (63 Loans)		32,400.00	
Loans issued, 1/1/66-1/31/66 (27 Loans)		16,700.00	49,100.00
Cash on Hand 1/31/66			$27,388.55

1965

Contributions:		
Physicians (53)		$ 2,435.00
Medical Societies:		
West Central Missouri	$100.00	
South Central Counties	100.00	200.00
Polio Clinics:		
West Central Missouri	$3,745.00	
City-County Medical Charities	7,500.00	11,245.00
Others:		
Professional Management Midwest	$50.00	
Miss Nellie Evans	500.00	
Tribute—Memorials	35.00	585.00
		$14,465.00

Loan Recapitulation

Total Operations September, 1960 to February 1, 1966

Income to Date (including interest and Auxiliary Loan Fund)		$214,480.17
Loans Made to Students to date (including Auxiliary)	$199,165.83	
(Less) Loan Repayments (including Auxiliary)	12,074.21	
Loans Outstanding	$187,091.62	187,091.62
Balance on Hand		$ 27,388.55

Total Number of Loans Granted	396
Number of Different Students Receiving Loans	165

Dr. Bull reported that since February 1, 1966, seven additional loans had been granted and amounted to $3,350.00.

Dr. Bull also reported that the Foundation was to be a recipient of $5,000 in the near future from a will which is being probated in St. Louis and is still under litigation due to a contest of the will.

Dr. Bull called for the next order of business which was the election of one member to the Board of Trustees for a five year term to fill the vacancy created by the expiration of his, Dr. Bull's term.

Dr. Bull then requested the report of the Nominating Committee composed of Drs. C. L. Clark, Trenton; Donald Giesler, Osceola; A. P. Rowlette, Moberly; and C. G. Stauffacher, Sedalia. The name of Dr. Walter W. Tillman, Jr., Springfield, was presented for the five year term to fill Dr. Bull's vacancy as President. The name of Dr. Albert Cross, Trenton, was presented to serve the five year term as Vice President to fill the vacancy of Dr. Tillman as vice president. Dr. Bull called for additional nominations from the floor. There being none, a motion was made, seconded and passed that the nominations cease and Dr. Tillman and Dr. Cross be elected by acclamation.

Dr. Bull then called for any other business to come before the meeting. There was none. He then announced there would be a short meeting of the Board of Trustees immediately following the adjournment of the Annual Meeting.

The meeting was adjourned at 6:00 PM.

Minutes of the MSMF Board of Trustees Meeting Muehlebach Hotel, Kansas City March 28, 1966

The meeting of the Board of Trustees was called to order by Dr. Ben Bull, President, immediately following the adjournment of the Annual Meeting of the MSMF. Present were: Drs. Furlow, Bull, Muether, Whitener, Cross and Benoit.

Dr. Bull explained the purpose of this meeting was for the election of officers. He requested that Dr. Whitener, President of the MSMA, assume the chair for this purpose. Dr. Whitener called for nominations for the office of President. The name of Dr. Walter W. Tillman, Jr., was placed in nomination. No further nominations were offered and Dr. Tillman was unanimously elected.

Dr. Bull again assumed the chair and called for nominations for the office of Vice President. The name of Dr. Albert Cross was placed in nomination. No other nominees were offered and Dr. Cross was unanimously elected.

Nominations were invited for Secretary-Treasurer. The name of Dr. C. R. Doyle was presented. There being no additional nominations, Dr. Doyle was unanimously elected.

A motion was made, seconded and passed that the following Committee of the Board be authorized to make loans to medical students, residents of Missouri, in the name of the MSMF, using funds of the Foundation for that purpose: Drs. C. R. Doyle, Leonard Furlow, and R. O. Muether, all of St. Louis. This Committee was authorized to limit, per semester, for each student a loan of $750.00.

Mr. Ray McIntyre was reappointed Assistant Secretary to assist in the administration of the Foundation's program.

There being no further business, the Board was declared adjourned at 6:15 PM.

CLASSIFIED ADS

STUDENT HEALTH SERVICE—Excellent opportunity for generalist to join full time staff of expanding health service. Pleasant university town in Rocky Mountain area. Write Box 330, c/o Missouri State Medical Association, 634 N. Grand Blvd., St. Louis, Mo. 63103.

FOR SALE—1964 Model Burdick EK-111 Electrocardiograph Machine in excellent condition with stand to match complete with accessories. Contact: R. A. Osbourn, M.D., 102 Saults Addition, Fulton, Mo. Telephone —MI 2-6621 or MI 2-2854.

FOR RENT—Office space in existing suite. No lease required. Nominal rent. 4511 Forest Park Boulevard, St. Louis, Mo. FOrest 7-4700, Joseph Kendis, M.D., Harvey Walker, Jr., M.D.

PHYSICIANS WANTED—Urgently need Chief, Laboratory Service, plus other physicians. Equal opportunity employer. Apply Chief of Staff, VAH, Jefferson Barracks, St. Louis, Missouri 63125.

WANTED—X-ray Technician, female, preferably capable of light typing, for office of orthopedic surgeons. 40-hour week. Ideal working conditions. In reply, contact Box 331, c/o Missouri State Medical Association, 634 N. Grand Blvd., St. Louis, Mo. 63103.

FOR RENT—Psychiatric office in modern medical center near Barnes and Jewish Hospitals. Share waiting room and secretarial area with two other psychiatrists. Contact Thomas Thale, M.D., 1221 S. Grand Blvd., St. Louis, Missouri 63104.

STAFF PHYSICIAN—MEDICAL SERVICE in 228 bed accredited GM&S hospital. Congenial atmosphere, excellent fringe benefits. Applications or inquiries solicited from Internists and General Practitioners. Contact Director, VA Hospital, Poplar Bluff, Mo. 63901.

WANTED—General Practitioner to associate in Group Practice. Modern office facilities and accredited hospital. Adequate guaranteed income to start and increases leading to full partnership. Contact Eugene B. Robichaux, M.D., Excelsior Springs, Mo.

GENERAL PRACTICE VACANCY exists in a town of approximately 25,000. Well established for over 15 years. Gross exceeds $40,000. Hospital privileges available and will introduce if desired. Building and equipment available. Write Box 320, c/o Missouri State Medical Association, 634 N. Grand Blvd., St. Louis, Mo. 63103.

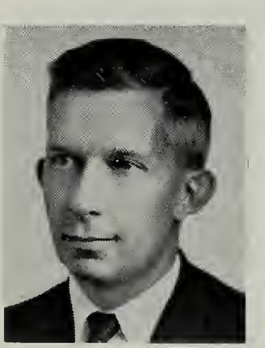
INTERNIST—for 5-man department in busy and steadily growing northcentral Kansas 13-member multispecialty group. Partnership after salary for two years. Board eligible or Certified. Contact, Gerald R. Arnold, Business Manager, Gelvin-Haughey Clinic, Concordia, Kansas.

WANTED—Due to death, General Practitioner to take over practice with option to buy. Large practice, modern office in shopping center, Poplar Bluff, Missouri. Contact Mrs. Hardin O. Henrickson, Executor, Valley Plaza or Mr. Edward Friedewald, Attorney, 400 S. 11th Street, Poplar Bluff, Missouri.

Purposes of Association

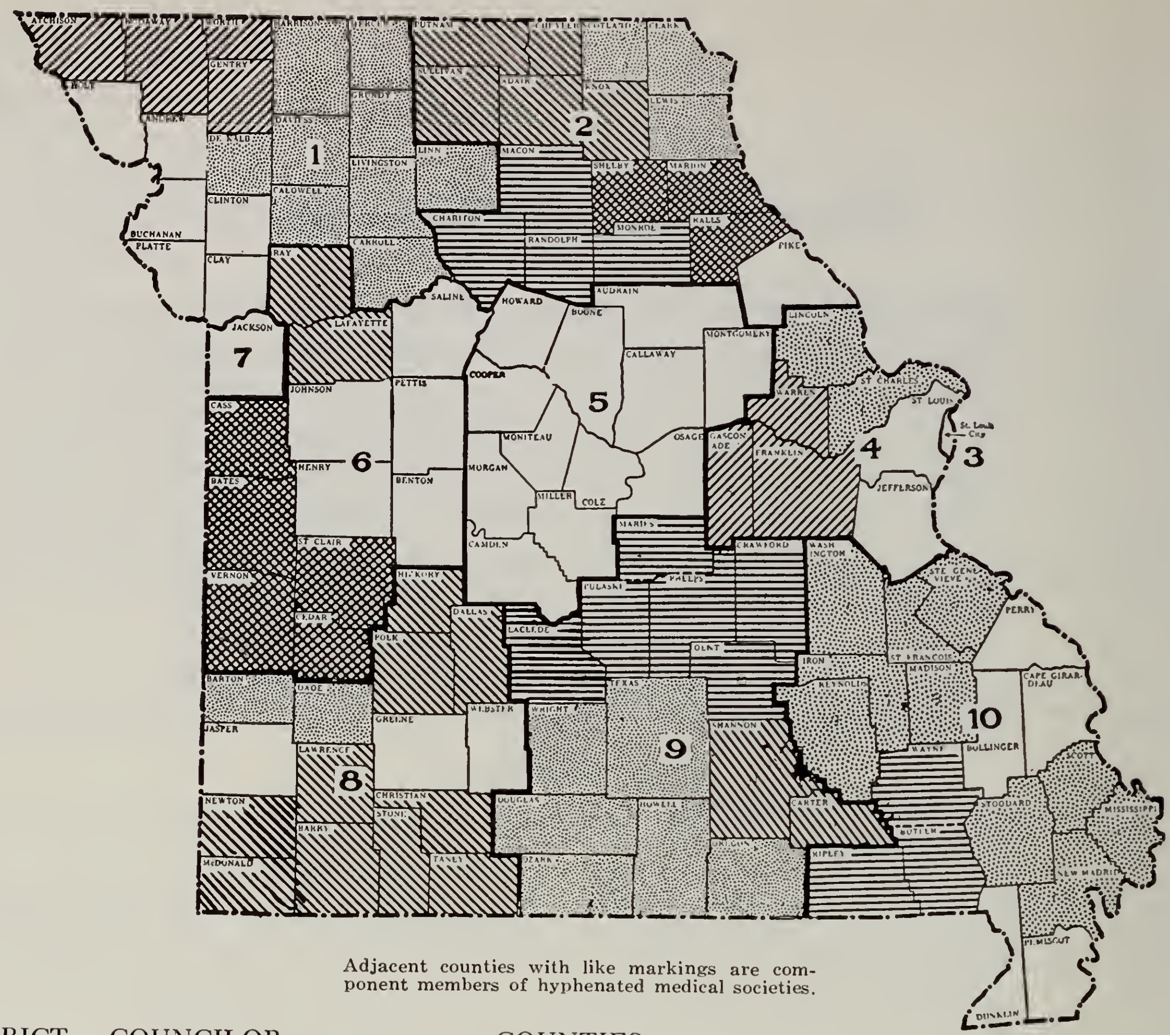
THE PURPOSES of the Missouri State Medical Association are to bring into compact organization the entire medical profession of the State of Missouri with the view of the extension of medical knowledge and the advancement of medical science, to promote and elevate the standards of medical education and the enactment and enforcement of just medical and public health laws, to encourage friendly intercourse among physicians, to guard and sustain measures of interest and advantage to the public and the medical profession, and to promote science, knowledge and skill among the medical profession.

1950 MSMA Handbook
Centennial Issue



Joseph V. Finnegan
Editor

Councilor Districts and Counties in Each District


ATCHISON
NODAWAY
WORTH
HARRISON
MERCER
PUTNAM
SCHUYLER
SCOTLAND
CLARK
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GENTRY
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ADAIR
KNOX
LEWIS
GRUNDY
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ANDREW
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LINN
MACON
SHELBY
MARION
LIVINGSTON
CALDWELL
CLINTON
CHARITON
MONROE
RALLS
BUCHANAN
PLATTE
CARROLL
RANDOLPH
RAY
CLAY
PIKE
AUDRAIN
SALINE
HOWARD
BOONE
JACKSON
LAFAYETTE
LINCOLN
MONTGOMERY
CALLAWAY
7
COOPER
PETTIS
JOHNSON
5
ST CHARLES
WARREN
ST LOUIS
St. Louis City
CASS
MONITEAU
OSAGE
GASCONADE
FRANKLIN
4
3
HENRY
6
BENTON
MORGAN
BATES
MILLER
COLE
JEFFERSON
ST CLAIR
CAMDEN
MARIES
CRAWFORD
WASHINGTON
VERNON
HICKORY
PULASKI
PHELPS
STE GENEVIEVE
PERRY
DALLAS
CEDAR
POLK
LACLEDE
DENT
IRON
ST FRANCOIS
MADISON
REYNOLDS
CAPE GIRARDEAU
BARTON
DADE
TEXAS
WEBSTER
WRIGHT
JASPER
GREENE
SHANNON
9
10
WAYNE
BOLLINGER
LAWRENCE
8
CHRISTIAN
NEWTON
DOUGLAS
CARTER
STODDARD
MISSISSIPPI
STONE
BARRY
HOWELL
BUTLER
TANEY
OZARK
McDONALD
RIPLEY
NEW MADRID
PEMISCOT
DUNKLIN

Adjacent counties with like markings are component members of hyphenated medical societies.

DISTRICT	COUNCILOR	COUNTIES
First	**Joseph L. Fisher, M.D.** St. Joseph	Andrew, Atchison, Buchanan, Caldwell, Carroll, Clay, Clinton, Daviess, De Kalb, Gentry, Grundy, Harrison, Holt, Linn, Livingston, Mercer, Nodaway, Platte and Worth
Second	**Lysle M. Bach, M.D.** Hannibal	Adair, Chariton, Clark, Knox, Lewis, Macon, Marion, Monroe, Pike, Putnam, Ralls, Randolph, Schuyler, Scotland, Shelby and Sullivan
Third	**David N. Kerr, M.D.** (Chairman) St. Louis	St. Louis (City)
Fourth	**Robert A. Mayer, M.D.** Clayton	Franklin, Gasconade, Jefferson, Lincoln, St. Charles, St. Louis (County) and Warren.
Fifth	**James C. Cope, M.D.** Columbia	Audrain, Boone, Callaway, Camden,* Cole, Cooper, Howard, Miller, Moniteau, Montgomery, Morgan and Osage*
Sixth	**Rolla B. Wray, M.D.** Nevada	Bates, Benton, Cass, Cedar, Henry, Johnson, Lafayette, Pettis, Ray, St. Clair, Saline and Vernon
Seventh	**Gerald L. Miller, M.D.** Kansas City	Jackson
Eighth	**Doyle C. McCraw, M.D.** (Vice Chairman) Bolivar	Barry, Barton, Christian, Dade, Dallas, Greene, Hickory, Jasper, Lawrence, McDonald, Newton, Polk, Stone, Taney and Webster
Ninth	**E. A. Stricker, M.D.** St. James	Carter, Crawford, Dent, Douglas, Howell, Laclede, Maries, Oregon, Ozark, Phelps, Pulaski, Shannon, Texas and Wright
Tenth	**W. D. English, M.D.** Cardwell	Bollinger,* Butler, Cape Girardeau, Dunklin, Iron, Madison, Mississippi, New Madrid, Pemiscot, Perry, Reynolds, Ripley, St. Francois, Ste. Genevieve, Scott, Stoddard, Washington and Wayne

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* Counties with no medical organization.

Component Societies in Affiliation With the Missouri State Medical Association

COUNTY	DISTRICT	PRESIDENT	ADDRESS	SECRETARY	ADDRESS
Andrew	1	V. R. Wilson	Rosendale	Warren C. Baker	Savannah
Audrain	5	Leonard L. Davis	Mexico	Thomas L. Dwyer	Mexico
Barton-Dade	8	Herbert M. Arnold	Lamar	Alvin R. Cain	Lamar
Benton	6			James A. Logan	Warsaw
Boone	5	C. Thorpe Ray	Columbia	David G. Hall	Columbia
Buchanan	1	William Redmond	St. Joseph	John Mothershead	St. Joseph
Butler-Wayne-Ripley	10	William Robertson	Poplar Bluff	Ernest M. Tapp	Poplar Bluff
Callaway	5	George Wood	Fulton	Katherine Brown	Fulton
Cape Girardeau	10	T. A. Lovinggood	Cape Girardeau	Wendell K. Stewart	Cape Girardeau
Carter-Shannon	9				
Chariton-Macon-Monroe-Randolph	2	Floyd A. Barnett	Paris	Robert Hasson	Moberly
Clay	1	Dean F. Werner	N. Kansas City	F. C. Werner	Kansas City
Clinton	1	W. B. Spalding	Plattsburg	J. P. Mabrey	Plattsburg
Cole	5	Robert E. Bregant	Jefferson City	James Gordon	Jefferson City
Cooper	5	Bernard Draper	Boonville	D. Hata	Boonville
Dallas-Hickory-Polk	8	Ben Koon	Bolivar	Evelyn Griffin	Buffalo
Dunklin	10			Quinton Tarver	Kennett
Franklin-Gasconade-Warren	4	George Richardson	Union	Robert Moellenhoff	Washington
Grand River Medical Society (Caldwell-Livingston-Carroll-Grundy-Daviess-Harrison-Linn-Mercer-DeKalb)	1	Joseph Gale	Chillicothe	Albert D. Cross	Trenton
Greene	8	William F. Johnson	Springfield	Ernest Lorenc	Springfield
Henry	6	Hugh Walker	Clinton	R. S. Hollingsworth	Clinton
Howard	5			F. D. Dean	Fayette
Jackson	7	Harry Statland	Kansas City	Wallace P. McKee	Kansas City
Jasper	8	Harry K. Wieman	Joplin	David Allen	Joplin
Jefferson	4	Karl V. McKinstry	DeSoto	J. L. Mayfield	Crystal City
Johnson	6	R. Lee Cooper	Warrensburg	Charles Lederer	Warrensburg
Lafayette-Ray	6	Charles T. Riley	Richmond	Wayne Boydston	Odessa
Lewis-Clark-Scotland	2	Earl E. Gilfillan	Memphis	Landis Y. Davis	Canton
Lincoln-St. Charles	4	Robert J. Fleming	St. Charles	G. A. Yaeger	St. Charles
Marion-Ralls-Shelby	2	Thomas Fischer	Hannibal	John F. Clisham	Hannibal
Mid-Missouri County Medical Society (Phelps-Crawford-Dent-Pulaski-Maries-Laclede)	9	William R. Lytle	Rolla	Barbara Russell	Rolla
Miller	5			Carl Buehler	Eldon
Mineral Area County Medical Society (St. Francois-Iron-Madison-Washington-Reynolds)	10	C. W. Chastain	Farmington	Jose Jimenez	Farmington
Moniteau	5	K. S. Latham	California	L. M. Gallagher	California
Montgomery	5	E. J. T. Andersen	Montgomery City	S. J. Byland	Wellsville
Morgan	5	J. L. Washburn	Versailles	Ray Lyle	Versailles
North Central Counties Medical Society (Adair-Schuyler-Knox-Sullivan-Putnam)	2	Robert W. Buben	Kirksville	Mark M. Tendai	Kirksville
Northwest Missouri Medical Society (Nodaway-Holt-Atchison-Gentry-Worth)	1	Benjamin F. Byland	Maryville	Frank Matteson	Grant City
Ozarks Medical Society (Barry-Lawrence-Stone-Christian-Taney-Newton-McDonald)	8	Roy E. Kenney	Neosho	Charles Spears	Branson
Pemiscot	10			J. W. Bernard	Caruthersville
Perry-Ste. Genevieve	10	Joseph Lutkewitte	Ste. Genevieve	Stanley Legner	Perryville
Pettis	6	E. M. Braverman	Sedalia	Donald Eldenberg	Sedalia
Pike	2			L. G. Stuerman	Louisiana
Platte	1	I. W. Kimball	Kansas City	S. Lloyd Allen	Kansas City
St. Louis City	3	George L. Hawkins	St. Louis	Charles B. Ladd	St. Louis
St. Louis County	4	C. Howe Eller	St. Louis	Miles C. Whitener	St. Louis
Saline	6	C. A. McBurney	Slater	Richard F. Aiken	Marshall
Semo County Medical Society (Stoddard-New Madrid-Scott-Mississippi)	10	John Dernoncourt	Charleston	Thelma C. Buckthorpe	Sikeston
South Central Counties Medical Society (Howell-Oregon-Texas-Wright-Douglas-Ozark)	9	C. Franklin Smith	Willow Springs	Rollin H. Smith	West Plains
Webster	8	T. M. Macdonnell	Marshfield	R. J. Bareis	Marshfield
West Central Missouri Medical Society (Bates-Cass-Cedar-St. Clair-Vernon)	6	Robert Magee	El Dorado Springs	Roy W. Pearse, Jr.	Nevada

Physician Distribution

(List of Missouri communities where MSMA member physicians are in active practice. Name of the community is followed by the county in which it is located and the medical society to which physicians of that community would normally belong.)

A

Affton, St. Louis*
Albany, Gentry, Northwest Missouri
Altenberg, Perry
Appleton City, St. Clair, West Central
Aurora, Lawrence, Ozarks
Ava, Douglas, South Central

B

Ballwin, St. Louis*
Belton, Cass, West Central
Berkeley, St. Louis*
Bethany, Harrison, Grand River
Bismarck, St. Francois, Mineral Area
Bloomfield, Stoddard, SEMO
Blue Springs, Jackson
Bolivar, Polk, Dallas-Hickory-Polk
Bonne Terre, St. Francois, Mineral Area
Boonville, Cooper
Bourbon, Crawford, Mid Missouri
Bowling Green, Pike
Branson, Taney, Ozarks
Braymer, Caldwell, Grand River
Brentwood, St. Louis*
Bridgeton, St. Louis*
Brookfield, Linn, Grand River
Browning, Linn, Grand River
Brunswick, Chariton
Buckner, Jackson
Buffalo, Dallas
Butler, Bates, West Central

C

Cabool, Texas, South Central
Cainesville, Harrison, Grand River
California, Moniteau
Camdenton, Camden
Cameron, Clinton
Canton, Lewis
Cape Girardeau, Cape Girardeau
Cardwell, Dunklin
Carrollton, Carroll, Grand River
Carthage, Jasper
Caruthersville, Pemiscot
Cassville, Barry, Ozarks
Centralia, Boone
Chaffee, Scott, SEMO
Charleston, Mississippi, SEMO
Chesterfield, St. Louis*
Chillicothe, Livingston, Grand River
Clarksville, Pike
Clayton, St. Louis*
Clinton, Henry
Columbia, Boone
Concordia, Lafayette
Crane, Stone, Ozarks
Creve Coeur, St. Louis*
Crystal City, Jefferson
Cuba, Crawford, Mid Missouri

D

Desloge, St. Francois, Mineral Area
DeSoto, Jefferson
Dexter, Stoddard, SEMO
Doniphan, Ripley, Butler-Ripley-Wayne

E

East Prairie, Mississippi, SEMO
Edina, Knox, North Central
Eldon, Miller
El Dorado Springs, Cedar, West Central
Elsberry, Lincoln
Everton, Jackson
Excelsior Springs, Clay

F

Farmington, St. Francois, Mineral Area
Fayette, Howard
Fenton, St. Louis*
Ferguson, St. Louis*
Festus, Jefferson
Flat River, St. Francois, Mineral Area
Florissant, St. Louis*
Forsyth, Taney, Ozarks
Fredericktown, Madison, Mineral Area
Frontenac, St. Louis*
Fulton, Callaway

G

Gallatin, Daviess, Grand River
Gashland, Clay
Gideon, New Madrid, SEMO
Gladden, St. Louis*
Glasgow, Howard
Glendale, St. Louis*
Gordonville, Cape Girardeau
Grandview, Jackson
Grant City, Worth, Northwest Missouri
Gravois Mills, Jackson
Greenfield, Dade, Barton-Dade

H

Hamilton, Caldwell, Grand River
Hannibal, Marion
Harrisonville, Cass, West Central
Hayti, Pemiscot
Herculaneum, Jefferson
Hermann, Gasconade, Franklin-Gasconade-Warren
Hickman Mills, Jackson
Higginsville, Lafayette
Hillsboro, Jefferson
Holden, Johnson
Hornersville, Dunklin
Houston, Texas, South Central
Humansville, Polk, Dallas-Hickory-Polk
Huntsville, Randolph, Chariton-Macon-Monroe-Randolph

I

Illmo, Cape Girardeau
Imperial, Jefferson
Independence, Jackson
Ironton, Iron, Mineral Area

J

Jackson, Cape Girardeau
Jefferson Barracks, St. Louis*
Jefferson City, Cole
Jennings, St. Louis*
Joplin, Jasper

K

Kansas City, Jackson
Kennett, Dunklin
Kimmswick, Jefferson
King City, Gentry, Northwest Missouri
Kirksville, Adair, North Central
Kirkwood, St. Louis*
Knobnoster, Johnson
Knox City, Knox, North Central
Koch, St. Louis*

L

Ladue, St. Louis*
Lakeview Heights, Benton
Lamar, Barton
Lawson, Ray
Leadwood, St. Francois, Mineral Area
Lebanon, Laclede, Mid Missouri
Lee's Summit, Jackson
Leeton, Johnson
Lemay, St. Louis*
Lexington, Lafayette
Liberty, Clay
Lockwood, Dade, Barton-Dade
Louisiana, Pike

M

Macon, Macon, Chariton-Macon-Monroe-Randolph
Malden, Dunklin
Maplewood, St. Louis*
Marceline, Linn, Grand River
Marshall, Saline
Marshfield, Webster
Marthasville, Warren, Franklin-Gasconade-Warren
Martin City, Jackson
Maryville, Nodaway, Northwest Missouri
Maysville, De Kalb, Grand River
Memphis, Scotland, Lewis-Clark-Scotland
Mexico, Audrain
Milan, Sullivan, North Central
Miller, Lawrence, Ozarks
Moberly, Randolph, Chariton-Macon-Monroe-Randolph
Monette, Barry, Ozarks
Montgomery City, Montgomery
Morehouse, New Madrid, SEMO
Morrisville, Polk, Dallas-Hickory-Polk
Mound City, Holt, Northwest Missouri
Mountain Grove, Wright, South Central
Mountain View, Howell, South Central
Mount Vernon, Lawrence, Ozarks

N

Neosho, Newton, Ozarks
Nevada, Vernon, West Central
New Florence, Montgomery
New Haven, Franklin
New Madrid, New Madrid, SEMO
Normandy, St. Louis*
North Kansas City, Clay

O

Oak Grove, Jackson
Odessa, Lafayette
O'Fallon, St. Charles, Lincoln-St. Charles
Olivette, St. Louis*
Oran, Scott
Osceola, St. Clair, West Central
Overland, St. Louis*
Owensville, Gasconade, Franklin-Gasconade-Warren
Ozark, Christian, Ozarks

P

Pacific, Franklin
Palmyra, Marion
Paris, Monroe, Chariton-Macon-Monroe-Randolph
Parkville, Platte
Parma, New Madrid, SEMO
Pattonsburg, Daviess, Grand River
Pattonville, St. Louis*
Perrville, Perry
Piedmont, Wayne, Butler-Ripley-Wayne
Pine Lawn, St. Louis*
Platte City, Platte
Plattsburg, Clinton
Pleasant Hill, Cass, West Central
Poplar Bluff, Butler
Portageville, New Madrid, SEMO
Potosi, Washington, Mineral Area
Princeton, Mercer, Grand River

R

Raytown, Jackson
Reeds Springs, Stone, Ozarks
Republic, Greene
Rich Hill, Bates, West Central
Richmond, Ray, Lafayette-Ray
Richmond Heights, St. Louis*
Ridgeway, Harrison, Grand River
Robertson, St. Louis*
Rock Hill, St. Louis*
Rockport, Atchison, Northwest Missouri
Rolla, Phelps, Mid Missouri

S

St. Ann, St. Louis*
St. Charles, St. Charles, Lincoln-St. Charles
St. Clair, Franklin
Ste. Genevieve, Ste. Genevieve, Perry-St. Genevieve

St. James, Phelps, Mid Missouri
St. Joseph, Buchanan
St. Louis City*
Salem, Dent, Mid Missouri
Salisbury, Chariton
Sappington, St. Louis*
Savannah, Andrew
Sedalia, Pettis
Sedgewickville, Bollinger
Senath, Dunklin
Shelbina, Shelby, Marian-Ralls-Shelby
Shelbyville, Shelby, Marion-Ralls-Shelby
Shrewbury, St. Louis*
Sikeston, Scott, SEMO
Slater, Saline
Smithton, Pettis
Smithville, Clay
Springfield, Greene
Stanberry, Gentry, Northwest Missouri
Steele, Pemiscot
Steelville, Crawford, Mid Missouri
Stockton, Cedar, West Central
Strafford, Greene
Sullivan, Franklin
Sweet Springs, Saline

T

Tarkio, Atchison, Northwest Missouri
Thayer, Oregon, South Central
Trenton, Grundy, Grand River
Troy, Lincoln

U

Union, Franklin
University City, St. Louis*

V

Valley Park, St. Louis*
Vandalia, Audrain
Versailles, Morgan

W

Warrensburg, Johnson
Warrenton, Warren, Franklin-Gasconade-Warren
Warsaw, Benton
Washington, Franklin
Waverly, Lafayette
Waynesville, Pulaski, Mid Missouri
Webb City, Jasper
Webster Groves, St. Louis*
Wellsville, Montgomery
Wentzville, St. Charles, Lincoln-St. Charles
West Plains, Howell, South Central
Wheeling, Livingston, Grand River
Willard, Greene
Willow Springs, Howell, South Central
Windsor, Henry
Winona, Shannon, Carter-Shannon
Winston, Daviess, Grand River

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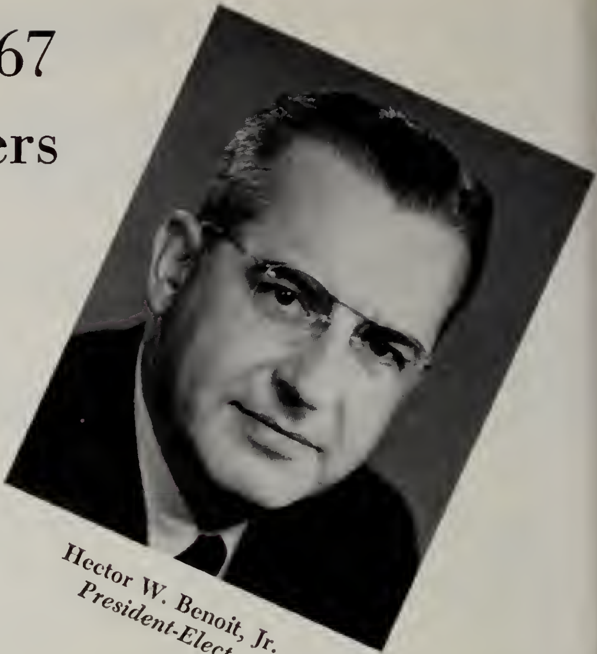
* Member may belong to St. Louis County Medical Society or St. Louis Medical Society.

1966-67
Officers

Byron M. Stuart
President



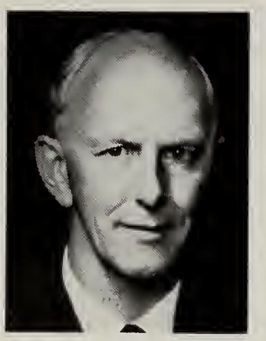
Hector W. Benoit, Jr.
President-Elect

Missouri State

Paul R. Whitener
Immediate Past President

George W. Winn
Vice President

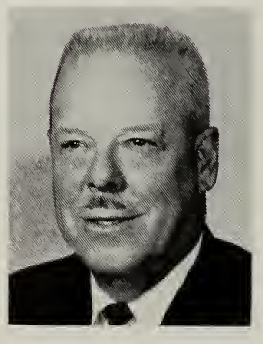
B. J. Bass
Vice President



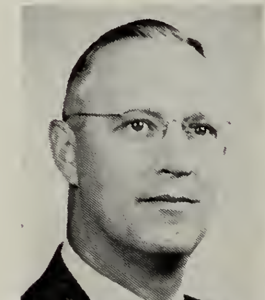
Fred L. Wommack
Vice President

Medical Association

John I. Matthews
Secretary



Walter T. Gunn
Treasurer



Stanley S. Peterson
Speaker

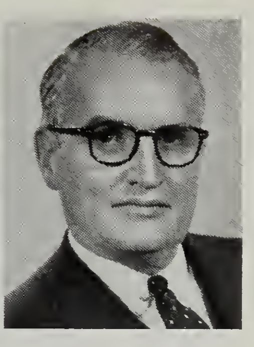
Paul F. Max
Vice Speaker

AMA Delegates

Durward G. Hall

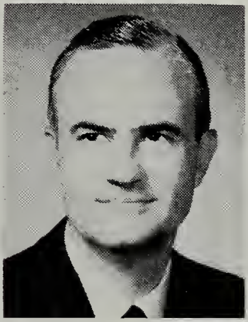
J. Loren Washburn

Arthur W. Neilson


Richard H. Kiene

Alternate Delegates

J. H. Summers
(Deceased)


Thompson E. Potter

Robert Kelley

Hugh E. Stephenson, Jr.

The Council

Joseph L. Fisher
1st District

Lysle M. Bach
2nd District

David N. Kerr
3rd District
Chairman

Robert A. Mayer
4th District

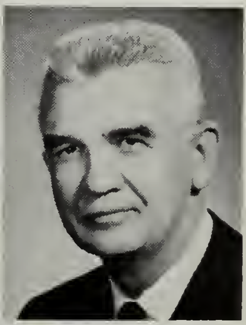
James C. Cope
5th District

Rolla B. Wray
6th District

Gerald L. Miller
7th District

Doyle C. McCraw
8th District
Vice Chairman

E. A. Stricker
9th District


W. D. Enlish
10th District

MSMA Committees 1966-67

STANDING COMMITTEES

Scientific and Postgraduate Work—John I. Matthews, Jefferson City, Chairman (1969); Peter G. Danis, St. Louis (1967); J. F. McDonnell, Kansas City (1969); M. Pinson Neal, Columbia (1968); Richard W. Yore, St. Louis (1967). **Associate Members**—E. D. Imes, Maryville; Paul B. Anderson, Neosho; W. Thomas Morgan, Jr., West Plains; Paul H. Rother, St. Charles; Charles P. McGinty, Cape Girardeau; R. A. Slickman, Kansas City; Edward D. Kinsella, St. Louis; T. J. Fischer, Hannibal.

Publication—Joseph V. Finnegan, St. Louis, Chairman; Richard H. Kiene, Kansas City; C. G. Stauffacher, Sedalia; R. O. Muether, St. Louis; Ben M. Bull, Ironton (1967).

Medical Defense—W. W. Gist, Kansas City, Chairman (1968); Wilbur P. McDonald, St. Joseph (1967); Harold W. Miller, Willow Springs (1967); Max S. Franklin, St. Louis (1969); Roland S. Kieffer, St. Louis (1968).

Medical Education and Hospitals—William A. Knight, Jr., St. Louis, Chairman (1968); Vernon E. Wilson, Columbia (1967); Carl E. Lischer, St. Louis (1967); Ralph R. Hall, Kansas City (1969); Virgil Jeans, Joplin (1968).

Medical Economics—Herbert C. Wiegand, St. Louis, Chairman (1969); Martin P. Hunter, Kansas City (1969); John Forgrave, St. Joseph (1967); Rae W. Froelich, Lebanon (1967); G. W. Winn, Boonville (1968); **Associate Members**—Mary Newman, Cassville; Donald J. Giesler, Osceola; Chester L. Clark, Trenton; C. O. Vermillion, St. Louis; Charles Miller, Jr., Kirkwood; W. J. Ferguson, Sikeston.

Cancer—E. J. Schewe, Columbia, Chairman (1967); John E. Lamy, Sedalia (1967); Joseph L. Fisher, St. Joseph (1969); J. Martyn Schattyn, St. Louis (1968); James R. McVay, Jr., Kansas City (1968). **Associate Members**—Charles Gulick, St. Louis; Jose M. Sala, Springfield; G. Neil Berry, Kansas City.

Maternal Welfare—A. C. Trueblood, Clayton, Chairman (1967); James E. Keeler, Kansas City (1967); Irwin T. Craig, Joplin (1969); H. C. Willumsen, St. Joseph (1968); William B. See, Columbia (1968). **Associate Members**—C. G. Stauffacher, Sedalia; Edward M. Grim, Kirksville; MacDonald Bonebrake, Springfield; E. E. Wadlow, St. Joseph; Paul E. Kratz, Cape Girardeau; Eugene G. Hamilton, St. Louis; Lyman D. Brown, Springfield; Robert S. Brown, Kansas City; Seymour Monat, St. Louis; Leonard A. Wall, Kansas City.

Infant and Child Care—James A. Kinder, Cape Girardeau, Chairman; E. J. Schwartz, Springfield; James K. Mann, Hannibal; H. E. Petersen, St. Joseph; Chester P. Lynxwiler, St. Louis; Guy N. Magness, University City; Ray B. Lewis, Columbia; James J. Pascoe, Nevada; Barbara E. Russell, Rolla; Gerald E. Hughes, Kansas City. **Associate Members**—C. Read Boles, Clayton; Ben H. Koon, Bolivar; Ernest L. Glasscock, Kansas City; Willard B. Avery, Boonville (1967).

Mental Health—Henry V. Guhleman, Jefferson City, Chairman; Paul W. Hayes, St. Joseph; James N. Haddock, St. Louis; Robert D. Brookes, St. Louis; D. R. Edwards Sedalia; James B. Allison, Springfield; Paul L. Barone, Nevada; Edward T. Auer, St. Louis; Robert S. Terrill, Kansas City; Joseph B. Kendis, St. Louis; Marie Mowrer, St. Louis (1967).

Constitution and By-Laws—Kenneth C. Hollweg, Kansas City, Chairman (1968); W. A. Bloom, Fayette (1969); Donald M. Dowell, Chillicothe (1967); R. O. Muether, St. Louis (1967); James R. Meador, Clayton (1968).

Control of Venereal Disease—Edwin M. Powell, Springfield, Chairman (1968); A. E. Belden, Jefferson City (1967); A. W. Neilson, St. Louis (1967); John Martin, St. Joseph (1969); T. E. McMillan, Kansas City (1968). **Associate Member**—J. E. Bumgarner, Columbia.

Trauma—Glenn L. McElroy, Columbia, Chairman (1967); Richard E. Lord, St. Louis (1968); Paul W. Meyer, Kansas City (1968); Wilbur P. McDonald, St. Joseph (1969); Paul C. Miltenberger, Kennett (1969). **Associate Members**—E. M. Dillard, Springfield; Carl M. Peterson, Kansas City; Maurice F. Perll, Kansas City; James O. Lottes, St. Louis; L. P. Hetlage, Troy.

Eye Health—Flavius G. Pernoud, St. Louis, Chairman (1967); Paul M. Beck, St. Joseph (1967); John A. Buesseler, Columbia (1967); Paul G. Wolff, Cape Girardeau (1969); Dick H. Underwood, Kansas City (1968). **Associate Members**—John R. Rufe, Kansas City; Wilbur H. Lewin, St. Louis; D. E. Eggleston, Macon; John D. Maddox, Joplin; George Mandler, Chillicothe; H. B. Stauffer, Jefferson City; Robert Stewart, Springfield; Truman B. Schertz, North Kansas City.

Diabetes Mellitus—Harold K. Roberts, St. Louis, Chairman (1969); Thomas W. Burns, Columbia (1967); John K. Caldwell, Kansas City (1967); Lucien W. Ide, St. Joseph (1968); H. E. Oppenheimer, St. Louis (1969). **Associate Members**—William H. Olmstead, St. Louis; Loren Broaddus, Springfield; E. Lee McCorkle, Marshall; Charles F. Wilson, Cape Girardeau.

Anesthesiology—W. W. Tillman, Jr., Springfield, Chairman (1969); E. Helen Hash, Kansas City (1967); Kenneth K. Keown, Columbia (1967); Carl K. Ness, St. Joseph (1969); Edward O. Kraft, St. Louis (1968). **Associate Members**—George R. Weeks, Cape Girardeau; Robert B. Dodd, St. Louis; Edwin E. Bowe, Jefferson City.

Laboratory Medicine—William R. McPhee, Kansas City, Chairman (1968); James G. Bridgens, Kansas City (1967); Vincent Perna, St. Louis (1968); Henry C. Allen, Clayton (1969); Richard V. Riddell, St. Joseph (1969).

Disaster Medical Care and National Defense—George L. Watkins, Farmington, Chairman; Carl D. Siegel, Kansas City; Carroll P. Hungate, Kansas City; William F. Bell, Lee's Summit; B. L. Murphy, Hannibal; Curtis H. Lohr, Clayton; R. Ned White, Springfield; George E. Thoma, St. Louis; O. P. Hampton, St. Louis; J. S. Sanders, Jefferson City; John L. Mothershead, St. Joseph; Robert R. Donley, Monett (1967).

Physical Medicine and Rehabilitation—Edward B. Shires, Kansas City, Chairman (1967); Earl P. Holt, St. Louis (1967); F. D. Sundstrom, Springfield (1968); Lester E. Wolcott, Columbia (1968); John W. Deyton, St. Louis (1969). **Associate Members**—Nicholas S. Pickard, Kansas City; James T. Leslie, Jr., Jefferson City.

Aging—Stanley S. Peterson, Springfield, Chairman (1967); Robert C. Kingsland, Clayton (1967); Rolla B. Wray, Nevada (1968); Ralph Perry, Kansas City (1969); C. Thorpe Ray, Columbia (1969). **Associate Members**—Robert H. Tanner, Jefferson City; John A. Griffith, Kansas City; John W. Daake, St. Louis; J. H. Summers, Lebanon; Logan Mayfield, Crystal City; C. A. Nester, St. Louis.

Radiology and Ionizing Radiation—Mark D. Eagleton, Clayton, Chairman (1968); Gwilym S. Lodwick, Columbia (1967); J. Stewart Whitmore, Kansas City (1967); D. D. Anthony, Springfield (1968); Harold Rapp, Cape Girardeau (1969). **Associate Members**—Wayne K. Tice, Independence; Sam Merenda, St. Louis.

Public Service—Doyle C. McCraw, Bolivar, Chairman; Byron M. Stuart, Boonville; Hector W. Benoit, Jr., Kansas City; Armand E. Brodeur, St. Louis; Fred L. Wommack, Crane (1967).

Legislative Matters—John I. Matthews, Jefferson City, Chairman (1968); Byron M. Stuart, Boonville (1967); Hector Benoit, Jr., Kansas City (1968); David N. Kerr, St. Louis (1969); Doyle C. McCraw, Bolivar (1969). **Associate Members**—Stanley S. Peterson, Springfield; J. L. Washburn, Versailles.

SPECIAL COMMITTEES

Alcoholism—Joseph Kendis, St. Louis, Chairman; Max Teare, Kansas City; Evelyn Griffin, Buffalo; Tom R. Burcham, Jr., Farmington; Kathleen Smith, St. Louis (1967).

Industrial Health—Paul J. Centner, Kansas City, Chairman (1967); William L. Macon, St. Louis (1967); Van W. Taylor, Bonne Terre (1968); Richard A. Sutter, St. Louis (1969); John W. Berry, St. Louis (1969). **Associate Members**—Horace A. Lowe, Jr., Springfield; C. R. McAdam, St. Louis; William P. Folck, Kansas City.

Medical-Legal—Leonard T. Furlow, St. Louis, Chairman; Charles B. Wheeler, Kansas City; Lysle M. Bach, Hannibal; Frederick J. McCoy, Kansas City; Daniel L. Yancey, Springfield; John J. Modlin, Columbia; Lee T. Ford, Jr., St. Louis (1967).

Nursing and Paramedical Personnel—John H. Walters, Columbia, Chairman; Manning E. Grimes, St. Joseph; Joseph Cope, Lexington; Angelo Lapi, Kansas City; A. J. Signorelli, St. Louis (1967).

Rural Medical Service—B. J. Bass, Salem, Chairman; J. Marshall Jung, Illmo; James H. Sweiger, Maysville; K. S. Latham, California; H. F. Hoelscher, Warrenton; James E. Campbell, Macon; Charles A. Worley, Sweet Springs; T. M. MacDonnell, Marshfield (1967).

Study of Cardiac Disease—James G. Janney, St. Louis, Chairman; Earl L. Loyd, Jefferson City; R. E. Stufflebaum, Springfield; William J. Shaw, Sr., Fayette; Jack M. Martt, Columbia; W. L. Mundy, Kansas City; William J. Gillespie, St. Louis; Caryl A. Potter, St. Joseph; F. J. Biggs, Poplar Bluff; Joseph C. Edwards, St. Louis; J. Tenbrook King, Kansas City (1967).

Tuberculosis—Florence E. MacInnis, Kansas City, Chairman; Paul Murphy, St. Louis; Joseph L. Lucido, St. Louis; Walter C. Gray, St. Louis; William A. Werner, St. Louis; John W. Polk, Springfield; Sheldon B. Beecher, Poplar Bluff; Judson I. Chalkley, Columbia; C. A. Brashear, Mount Vernon (1967).

Alphabetical Roster of Members

A

Aach, Richard D., St. Louis
Aaron, George A., Independence
Abel, Charles C., St. Louis
Abel, Oliver, III, St. Louis
Abele, William A., Boonville
Abell, Walter E., St. Louis
Abrams, Morris, St. Louis
Acker, Harry L., St. Louis
Ackerman, Lauren V., St. Louis
Acuff, R. Phillip, St. Joseph
Adams, Howard D., Liberty
Adelman, Arthur, Kansas City
Adler, Benard C., St. Louis
Adler. Federico. Kansas City
Aff, Helen M., Clayton
Agee, Loren G., Kansas City
Agrass, Harry, St. Louis
Ahern, Archibald M., St. Louis
Ahlefeld, Charles B., Kansas City
Ahlering, George H., Clayton
Ahlvin, Robert C., St. Louis
Aiken, George A., Marshall
Aiken, Richard F., Marshall
Aisenstadt, E., Albert, Kansas City
Aitken, Louis F., St. Louis
Aks, Daniel, Kansas City
Akyol, Salim, St. Louis
Alberg, Marvin R., Kansas City
Aldrich, James T., St. Louis
Alex, Morris, St. Louis
Alexander, Frazier D., St. Louis
Alexander, Harry L., St. Louis
Allain, James J., N. Kansas City
Allaman, John M., Sarasota, Fla. (Member Buchanan County Medical Society)
Allan, James R., Excelsior Springs
Allbee, Roger H., Crystal City
Allebach, Hobart K., Kansas City
Allen, Claude J., Rich Hill
Allen, David O., Joplin
Allen, Erroll W., Carrollton
Allen, Henry C., Clayton
Allen, Hollis N., St. Louis
Allen, James H., St. Louis
Allen, Jerry H., Springfield
Allen, Joseph E., Columbia
Allen, Louis A., N. Kansas City
Allen, Melvin A., St. Louis
Allen, Robert E., Kansas City
Allen, S. Lloyd, Kansas City
Allen, Willard M., St. Louis
Allen, Wiliam B., Kansas City
Allen, William C., Columbia
Allen, William E., Jr., St. Louis
Allen, William H., Nevada
Allison, James B., Springfield
Almond, Carl H., Columbia
Alonso-Yague, P., St. Louis
Alsop, Webb S., Jr., Shawnee Mission, Kan. (Member Jackson County Medical Society)
Alsup, Frederick F., Belen, N. M. (Member Ozark Medical Society)
Althaus, Carl J., St. Louis
Altheide, Harvey E., Ladue
Altheide, J. Paul, St. Louis
Altomare, Edward P., Kansas City
Altringer, Arthur N., Shawnee Mission, Kan. (Member Jackson County Medical Society)
Alvis, Bennett Y., St. Louis
Alvis, Edmund B., St. Louis
Alyea, J. O., Cape Girardeau
Ames, Mary B., St. Joseph
Ames, William H., St. Joseph
Ammatelli, Francis J., Kansas City
Andersen, Elmer J. T., Montgomery City
Anderson, John M., St. Louis
Anderson, Paul B., Neosho
Anderson, Philip C., Columbia
Anderson, Raymond B., Kansas City
Anderson, Richard W., Kansas City
Anderson, Thomas R., Columbia
Anderson, William H., Columbia
Andrae, Robert L., Louisiana
Andrews, Berneil W., Kansas City
Andrus, Bailey C., Kansas City
Angles, Luis E., Kansas City
Anstey, George, St. Louis
Anthony, Dallas, Springfield
Apicella, Frank V., Marion, Ohio (Member St. Louis Medical Society)
Appleberry, Charles H., Rivermines
Aquino, Philip J., Caruthersville
Archer, Perry C., Shelbyville
Arms, Arnold V., Kansas City
Armstrong, Jay H., Shawnee Mission, Kan. (Member Clay County Medical Society)
Arneson, Axel N., St. Louis
Arney, William G., St. Louis
Arnold, Eugene L., St. Louis (Member Chariton-Macon-Monroe-Randolph County Medical Society)
Arnold, Herbert M., Lamar
Arnold, John D., Kansas City
Arnold, Richard C., Columbia
Aronberg, Lawrence M., St. Louis
Arst, Herbert E., Kansas City
Aschman, Theodore H., Kansas City
Asel, Norman D., Columbia
Ash, Charles J., Springfield
Asher, A. Graham, Kansas City
Ashley, Hugh V., Cape Girardeau
Ashley, Hugh, Jr., Cape Girardeau
Ashley, Thomas F., Springfield
Atcheson, Bellefield, Kansas City
Atkinson, Thomas E. Jr., Springfield
Atwell, Floyd C., Kansas City
Auer, Arthur I., St. Louis
Auer, Edward T., St. Louis
Aufderheide, G. Russell, St. Louis
Augustine, Robert W., St. Joseph
Aull, John, Kansas City
Auner, Cecil R., Springfield
Austin, George N., Columbia
Austin, Martin G., St. Louis
Averill, Keith H., Kansas City
Avery, Willard B., Boonville
Aylward, Howard J., St. Louis
Azuma, Nobutaka, St. Louis
Azzouni, J. N., St. Louis

B

Babka, Joseph J., St. Louis
Bach, Lysle M., Hannibal
Bachmann, Paul L., Independence
Backer, Matthias H., Jr., St. Louis
Baer, Alvin J., Kansas City
Bagby, James W., Clayton
Baggot, Michael C., Granite City, Ill. (Member St. Louis County Medical Society)
Bahn, Charles F., Cape Girardeau
Bailey, Alan H., Mt. Vernon
Bailey, Drennan, St. Louis
Bailey, Frank A., St. Louis
Bailey, William H., St. Louis
Baird, Keim L., St. Louis
Baker, A. Sherwood, Columbia
Baker, James M., Columbia
Baker, Josephine D., Moberly
Baker, Philip J., Kansas City
Baker, Warren C., Savannah
Baldwin, Paul, Kennett
Baldwin, Richard, Springfield
Baldwin, Theodore R., Lawson
Bales, Eugene L., Carrollton
Balhuizen, John, Kansas City
Ball, James E., San Gabriel, Calif. (Member Jackson County Medical Society)
Ballard, V. Bryce, Kansas City
Bandle, Donald F., St. Louis
Banet, Samuel R., St. Louis
Banton, M. Roman, St. Louis
Banton, William C., St. Louis
Barbour, Marvin R., Poplar Bluff
Barden, Frank W., Creve Coeur
Bardenheier, J. Phil, St. Louis
Bare, Chester I., Jr., Raytown
Bare, Edward F., Tarkio
Bareis, Robert J., Marshfield
Barelli, Pat A., Kansas City
Barger, O. B., Harrisonville
Barker, Edward T., St. Louis
Barloon, James H., Kansas City
Barnard, John L., Jr., Kansas City
Barnes, Robert H., Kansas City
Barnes, Seth S., Cape Girardeau
Barnett, Charles H., Bolivar
Barnett, Floyd A., Paris
Barnett, Gordon P., Kansas City
Barnett, Julian H., St. Louis
Barnett, Norman H., Joplin
Barnette, Eugene, St. Charles
Barone, Paul L., Nevada
Barrett, Scott R., St. Louis
Barrios, Francisco, St. Louis
Barrow, Jack, St. Louis
Barry, Gerald W., Kansas City
Barry, William B., Kansas City
Bartels, Leo G., St. Louis
Bartlett, Robert W., St. Louis
Bartlett, Willard, Jr., St. Louis
Bartnich, Mitchel L., St. Louis
Basantz, Fernando V., Prairie Village, Kan. (Member Jackson County Medical Society)
Bascom, Charles H., New York, N. Y. (Member Buchanan County Medical Society)
Baska, R. E., Kansas City
Bass, Billy J., Salem
Bass, Walter R., Kansas City
Bassett, Robert B., St. Louis
Bates, George C., Kansas City
Battersby, Richard S., Columbia
Bauer, Harold A., Lockwood
Bauer, John D., St. Louis
Bauer, Joseph A., St. Louis
Bauer, Maria, Granite City, Ill. (Member St. Louis Medical Society)
Bauer, Otto, Granite City, Ill. (Member St. Louis Medical Society)
Bauer, Robert A., St. Louis
Baum, Frank E., Kansas City
Bauman, Henry C., Maryville
Baumann, A. R., Steelville
Baumann, William B., San Francisco, Calif. (Member St. Louis Medical Society)
Baumgarten, Walter, Jr., St. Louis
Baumhardt, Edward E., Kansas City
Bawell, Malcolm B., St. Louis
Bay, Merrill R., Blue Springs
Beal, Homer, Malden
Beam, Sim F., St. Louis
Beard, Daniel D., St. Louis
Beare, J. Byron, St. Louis
Beare, Lucia V., St. Louis
Beasley, L. Kenneth, St. Louis
Beato, David L., St. Louis
Beck, Calvin E., Kansas City
Beck, Paul M., St. Joseph
Beck, Rea, St. Louis
Becke, William G., St. Louis
Beckemeyer, W. Albert, Sedalia
Becker, Bernard, St. Louis
Becker, Edward J., St. Louis
Becker, George H., St. Louis
Becker, Richard R., Kansas City
Becker, Rolfe A., Kansas City
Becker, Stanley C., St. Louis
Beckett, Theodore C., Boonville
Beckette, Edmund S., St. Louis
Beckman, Donald E., St. Louis
Beecher, Sheldon B., Poplar Bluff
Beheler, Edward M., St. Joseph
Behrens, Donald T., Richmond Heights
Behrens, Gerald L., St. Louis
Beidle, Raymond J., St. Louis
Beis, Louis D., St. Louis
Belden, Edgar A., Jefferson City
Belew, Joe E., St. Louis
Belinson, Louis, Jefferson City
Bell, Robert M., St. Louis
Bell, William F., Lee's Summit
Benage, Clarence M., St. Louis
Benjamin, Durand, St. Louis
Bennett, James D., Kansas City
Benoit, Hector Wright, Jr., Kansas City
Benson, John F., St. Louis
Benson, Leo J., Jr., Kennett
Benson, Scott C., St. Joseph
Berard, Louis N., St. Louis
Berenson, Sheldon E., Kansas City
Berg, Leonard, St. Louis
Berg, Ralph, St. Louis
Berger, Edward J., St. Louis
Bergman, Hugo F., St. Louis
Bergmann, Dwayne, St. Louis
Bergmann, John F., St. Louis
Bergmann, Martin, St. Louis
Bergmann, Victor H., Kansas City
Bergner, Grace E., St. Louis
Berland, Harry I., St. Louis
Berman, Joseph P., St. Louis
Berman, William, St. Louis
Bernard, Harvey R., St. Louis

Bernard, J. W., Caruthersville
Berndsen, Gerard H., Rock Hill
Berney, Francis J., St. Joseph
Bernreiter, Michael, Kansas City
Bernstein, Aaron M., St. Louis
Bernstorff, Paul H., St. Louis
Berry, Guy N., Kansas City
Berry, John W., St. Louis
Berry, Maxwell G., Kansas City
Berry, Paul T., Troy
Bersche, Bertram L., St. Louis
Berwald, Irwin I., St. Louis
Bess, William E., Sedalia
Best, Robert, Higginsville
Bettonville, Paul J., Jr., St. Louis
Bickel, Vern T., Lamar.
Biddy, Ralph L., St. Louis
Bieri, Earl J., St. Louis
Biggs, Alfred D., Jr., Kansas City
Biggs, Fred J., Poplar Bluff
Biggs, Harry L., Kansas City
Bikales, Victor W., Kansas City
Bills, Marvin L., Kansas City
Bilsky, Nathan, St. Louis
Bindbeutel, Arthur H., St. Louis
Bindbeutel, Donald A., Webster Groves
Binder, Morton A., St. Louis
Bircher, John L., St. Louis
Bird, H. Waldo, St. Louis
Birenbaum, Aaron, St. Louis
Birge, Clifford A., St. Louis
Birsner, Frank H., Carthage
Bishop, Marion D., Florissant
Bishop, Mary M., St. Louis
Bisno. Daniel, St. Louis
Black, Don A., Kansas City
Black, Eugene C., Kansas City
Black, Samuel P. W., Columbia
Blacklock, David E., King City
Blackman, Nathan, Kirkwood
Blackmore, Thomas A., Windsor
Blades, Ross D., Springfield
Blair, Vilray P., Jr., St. Louis
Blalock, Robert W., Marshall
Blalock, Wm. N., St. Louis
Blankenship, Dale M., Cape Girardeau
Blankenship, George W., Neosho
Blanton, J. C., Sikeston
Blim, Richard D., Kansas City
Block, Arnold S., St. Louis
Bloom, W. A., Fayette
Blount, Lee, Jr., St. Louis
Blunt, Charles P., St. Louis
Bockelman, Clifford H., Brentwood
Boedeker, Roy V., St. Louis
Boemer, Lilburn C., St. Louis
Boger, James W., Sedalia
Bohne, Wm. R., St. Louis
Bohnsack, Ralph W., Brookfield
Bohrer, Harry C., St. Louis
Boldizar, Albert G., St. Louis
Boldt, Thomas H., St. Louis
Boles, Clifford R., Clayton
Boley, James O., Kansas City
Bolgar, Bertalan, Festus
Bolinske, Robert E., St. Louis
Bolton, Robert L., Milwaukee, Wisc.
  (Member St. Louis Medical Society)
Bond, Leslie F., St. Louis
Bondurant, Bryce H., St. Louis
Bonebrake, M. D., Springfield
Bonfanti, Albert L., St. Louis
Bonney, Samuel C., Washington
Boone, Daniel S., Kansas City
Bordy, Marvin D., Kansas City
Borenstine, Joseph, Kansas City
Borowsky, Benjamin A., St. Louis
Bortnick, Arthur R., St. Louis
Boswell, John R., St. Louis
Boteler, George M., Kansas City
Botwin, Arnold E., Kansas City
Boucher, Robert E., Avon, Mass.
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Boughnou, Harvey P., Kansas City
Bouhasin, John D., St. Louis
Bourke, Timothy S., Kansas City
Boutros, Amin, Kansas City
Boveri, Joseph C., St. Louis
Bowdern, Edward H., Richmond Heights
Bowe, Edwin E., Jefferson City
Bowen, Stephen F., Jr., St. Louis
Bowen, Willet R., Brookfield, Conn.
  (Member Boone County Medical Society)
Bowerman, Harold H., St. Louis
Bowersox. Warren A., Pacific
Bowles, G. Robert, St. Louis
Bowles, Richard P., Liberty
Bowles, William T., St. Louis
Bowman, Melvin C., Neosho
Bowser, John F., Kansas City
Boyce, John Milton, Mexico
Boyd, Arthur M., St. Louis
Boyd, George K., Kansas City
Boydston, Catherine, Odessa
Boydston, W. Wayne, Odessa
Bozzo, Raymond J., Washington
Braby, Howard H., Independence
Bradford, John F., Kansas City
Bradley, Frank R., St. Louis
Bradley, Richard V., Clayton
Bradley, William W., Centralia
Bradshaw, W. D., Clinton
Brady, Arthur M., Kansas City
Brady, Charles H., Sedalia
Brady, Harry R., San Francisco, Calif.
  (Member St. Louis Medical Society)
Brady, Hugh S., Concordia
Brams, Jack B., Kansas City
Brand, Earl L., Webster Groves
Brandon, Walter L., Poplar Bluff
Brangle, Robert W., St. Louis
Brasher, Ben H., Lexington
Brasher, Charles A., Mt. Vernon
Braufman, Harvey S., St. Louis
Braverman, Abe E., Kansas City
Braverman, Elliot M., Sedalia
Brazos, John C., Smithton
Bregant, Robert E., Jefferson City
Bremser, Harry L., St. Louis
Brennan, George A., St. Louis
Brennan, John A., Farmington
Brennan, Patricia A., St. Louis
Brennan, Raymond J., Chillicothe
Brennan, Robert A., St. Louis
Brennan, Robert V., St. Louis
Brenner, Paul A., Owensville
Brereton, Robert L., Kirkwood
Brewer, Lake, Ridgeway
Brewster, Charlotte M., Kansas City
Bricker, Eugene M., St. Louis
Bricker, Neal S., St. Louis
Bridgens, James G., Independence
Brielmaier, Charles R., St. Louis
Brinker, Ray A., St. Louis
Briscoe, John R., Maplewood
Bristow, Robert B., St. Joseph
Broaddus, Loren, Springfield
Brock, Bernard, Windsor
Brockley, John T., St. Louis
Brodeur, Armand E., Kirkwood
Bronson, Shael S., St. Louis
Brooke, Clement E., Columbia
Brookes, Henry S., Jr., St. Louis
Brookes, Robert D., St. Louis
Brookreson, Alton D., Poplar Bluff
Brookreson, Alton F., Poplar Bluff
Brooks, Arthur C., St. Louis
Brooks, John M., Springfield
Brother, George M., St. Louis
Broun, Goronwy O., St. Louis
Broun, Goronwy O., Jr., St. Louis
Brown, Adrian J., Kansas City
Brown, Alex L., Springfield
Brown, Daniel W., San Diego, Calif.
  (Member St. Louis Medical Society)
Brown, E. Eugene, St. Louis
Brown, Elwyn S., Kansas City
Brown, Frederick B., Aurora
Brown, Irwin S., Kansas City
Brown, James B., St. Louis
Brown, James L., St. Louis
Brown, James M., St. Louis
Brown, James T., Springfield
Brown, John J., Fulton
Brown, Katherine S., Fulton
Brown, Lyman D., Springfield
Brown, Robert S., Kansas City
Brown, Seymour, St. Louis
Brownell, William M., Kansas City
Brownfield, Samuel T., Brookfield
Brownsberger, Robert H., Appleton City
Broyles, Glen H., Kansas City
Broyles, Watkins A., Bethany
Bruce, Helen L., St. Louis
Bruce, James G., Jefferson City
Bruce, Leo A., Sikeston
Bruce, Paul C., Excelsior Springs
Brukardt, Diane, Columbia
Brumm, Lawrence W., Kansas City
Bruner, Claude R., Columbia
Bruner, Robert E., Kansas City
Bruns, Kenneth, University City
Brust, Carl H., Mission, Kan.
  (Member Jackson County Medical Society)
Bryan, James H., Clayton
Bryan, William H., Jr., Kansas City
Bryan, William T. K., St. Louis
Bryant, Sydney L., St. Joseph
Bryant, William O., Hayti
Buben, Robert W., Kirksville
Buckingham, William, Kansas City
Buckner, Robert C., Kansas City
Buckthorpe, Thelma C., Sikeston
Budd, John J., Jr., St. Louis
Budke, Harold A., Kansas City
Buehler, Carl T., Jr., Eldon
Buessler, John A., Columbia
Bugg, Andrew F., Lordsburg, N. M.
  (Member Mineral Area County Medical Society)
Bugg, George W., St. Louis
Buhler, Victor B., Kansas City
Buie, Bruce R., Kansas City
Bulger, Harold A., St. Louis
Bull, Ben M., Ironton
Bumgarner, James E., Columbia
Bumgarner, Roger W., Columbia
Bunting, Williston P., Kansas City
Burch, John E., Joplin
Burcham, Tom R., Jr., Farmington
Burford, Cyrus E., St. Louis
Burford, Thomas H., St. Louis
Burford, Edwin K., Jr., Cape Girardeau
Burk, E. K., Kansas City
Burke, Robert J., St. Louis
Burkeholder, James N., Rockville, Md.
  (Member Boone County Medical Society)
Burkey, Jordan W., Springfield
Burkhardt, Edward F., St. Louis
Burmeister, R. William, St. Louis
Burney, Wallace S., Miller
Burns, Beryl I., Columbia
Burns, Francis J., St. Louis
Burns, Francis R., Hannibal
Burns, Thomas J., Houston
Burns, Thomas W., Columbia
Burnside, Charles R., Kirkwood
Burst, Donald O., St. Louis
Burstein, Robert, St. Louis
Busch, Anthony K., St. Louis
Busiek, Erwin F., Springfield
Busiek, Paul J., Springfield
Busiek, Urban J., Springfield
Bussmann, Donald W., St. Louis
Butcher, Harvey R., Jr., St. Louis
Butcher, Robert W., Kansas City
Butler, E. F., St. Joseph
Butsch, Richard H., St. Louis
Butterworth, Nelson S., Kansas City
Butts. James D., Rolla
Byars, Louis T., St. Louis
Byers, Philip L., Kansas City
Byland, Benjamin F., Maryville
Byland, Samuel J., Wellsville
Bynum, William R., Columbia
Byrne, John E., St. Louis
Byrne, Paul A., St. Louis

C

Caciola, Carlo, St. Louis
Cacioppo, Joseph E., St. Louis
Cadbury, Jane B., Chesterfield
Cadice, John B., St. Louis
Caffrey, Raymond J., Kansas City
Cain, Alvin R., Lamar
Cain, Charles F., Caruthersville
Caldwell, Fred, Poplar Bluff
Caldwell, Jacob D., Hayti
Caldwell, John K., Kansas City
Calkins, Delevan, St. Louis
Callahan, Donald E., Jennings
Callahan, Joseph D., St. Louis
Callaway, Guy D., Springfield
Callaway, Guy D., Jr., Springfield
Callihan, Charles F., West Plains
Calodney, Martin M., St. Louis
Calovich, Emery R., Kansas City
Camel, H. Marvin, St. Louis
Campbell, A. J., Sedalia
Campbell, Cecil S., St. Louis
Campbell, Edward D., Cape Girardeau
Campbell, Frederick B., Kansas City
Campbell, James E., Macon
Campbell, John G., Kansas City
Campos, Francisco J., St. Louis
Canaan, Samuel A., Jr., St. Louis
Canlas, Emilio M., Poplar Bluff
Cannon, Edward M., St. Louis
Canty, Eugene J., St. Charles
Capetti, Alex P., Crane
Cappel, Powel B., St. Louis
Capps, Eugene C., Shawnee Mission, Kan.
  (Member Jackson County Medical Society)
Carleton, Charles E.. Jr., Farmington
Carlin, Albert L., Stanberry
Carlin, M. Richard, St. Louis
Carlson Arne E., St. Louis

Carlson, Hjalmar E., Kansas City
Carmichael, Francis A., Jr., Kansas City
Carnes, Victor M., Joplin
Carpenter, George T., St. Joseph
Carpenter, George W., Chillicothe
Carpenter, Wallace, Rockport
Carr, Archie D., St. Louis
Carr, G. Thomas, St. Louis
Carrier, Edson C., Kansas Ctiy
Carrier, John A., St. Louis
Carrington, Howard W., Lebanon
Carroll, George A., St. Louis
Carroll, Grayson, St. Louis
Carroll, Percy J., Clayton
Carroll, Thomas W., Lamar
Carron, Joseph F., Arnold
Carron, Oscar A., Perryville
Carter, Edwin E., Clayton
Carter, Howard, Hamilton
Carter, James R., Neosho
Carter, John F., St. Louis
Caruso, Alfred A., Kansas City
Cary, John M., St. Louis
Casady, Gilbert N., Prairie Village, Kan.
(Member Jackson County Medical Society)
Casebolt, Buford T., Kansas City
Casey, Edwin J., St. Louis
Cash, Charles R., Kennett
Cason, Elbert H., St. Louis
Cassel, Melvin A., St. Louis
Castelaw, Rush E., Kansas City
Castillo, Michael E., N. Kansas City
Catanzaro, Anthony F., St. Louis
Catanzaro, Francis J., St. Louis
Catanzaro, Rudolph E., St. Louis
Cavaness, Ernest W., Encinitas, Calif.
(Member Jackson County Medical Society)
Centner, Paul J., Kansas City
Chalkley, Judson I., Columbia
Chamberlain, Gilbert L., Boonville
Chambers, James Q., Jr., Kansas City
Chamness, James T., St. Louis
Chandler, Robert A., Kansas City
Chaplin, Hugh, Jr., St. Louis
Chapman, Jean A., Cape Girardeau
Chapman, Jerry R., Steele
Chapman, Samuel B., Kansas City
Charles, Benjamin H., St. Louis
Charles, Cecil M., Clayton
Charnas, Raymond M., St. Louis
Chase, Ned B., Jr., Joplin
Chastain, Charles W., Farmington
Chastain, Maurice W., N. Kansas City
Cheek, Charles W., Columbia
Cheng, Alfred K., San Francisco, Calif.
(Member Jackson County Medical Society)
Chernoff, Selbert G., Kansas City
Cherre, Anthony J., St. Louis
Cherre, Charles J., St. Louis
Chesney, George W., Joplin
Chiasson, E. Chaille, Columbia
Chieffi, Margaret, St. Louis
Childs, Richard M., Kansas City
Chiles, David R.. Smithville
Chinsky, Murray, St. Louis
Christ, Martin H., St. Joseph
Christensen, Roger F., Louisiana
Christy, Raymond A., Springfield
Chute, W. Deward, Moberly
Ciampa, Thomas, St. Louis
Ciapciak, Stanley J., St. Louis
Clark, Chester L., Trenton
Clark, Clarence L., St. Louis
Clark, Irving H., Kansas City
Clark, Kendall A., Jefferson City
Clarke, Michael J., Springfield
Clary, William F., Springfield
Claseman, Wilma W., St. Louis
Clasen, Arthur C., Miami Beach, Fla.
(Member Jackson County Medical Society)
Clawson, James W., Springfield
Clayton, Edgar L., Springfield
Cleary, Frank, St. Louis
Cleveland, Horace F., Long Beach, Calif.
(Member St. Louis Medical Society)
Clever, Henry W., Jr., St. Charles
Cline, Harold H., Piedmont
Cline, Merle A., Kansas City
Clisham, John F., Hannibal
Clithero, William H., Duarte, Calif.
(Member St. Louis Medical Society)
Cloyd, Mason D., St. Louis
Coates, Thomas A., St. Louis
Cobb, James R., Kansas City
Coben, Lawrence A., St. Louis
Coburn, Donald F., Kansas City
Cochran, Donald Q., Columbia
Cochran, Jo R., Cape Girardeau
Cochran, Thomas E., Jr., Springfield
Cochrane, Joseph J., Kansas City
Cockerell, Sanford F., Independence
Coffee, Amos L., Willow Springs
Coffey, Ralph R., Kansas City
Coffin, Ernest L., Lakeworth, Fla.
(Member St. Louis Medical Society)
Coffin, Theodore A., Kansas City
Coffman, Esther E. L., Lakeworth, Fla.
(Member Ozarks Medical Society)
Cohen, Benjamin H., Clayton
Cohen, Frank, St. Ann
Cohen, Harry K., Kansas City
Cohen, Hilliard, Kansas City
Cohen, Robert S., St. Louis
Cohle, Richard R., Carthage
Cohnberg, Rosellen E., Neosho
Cohrs, Clarence C., Moberly
Cokingtin, Leovigildo, Independence
Cokrhame, Jack, St. Louis
Colbert, Robert L., Sikeston
Coldwater, Kenneth B., St. Louis
Cole, William R., St. Louis
Coleman, William G., St. Louis
Colglazier, Mary C., Kansas City
Coller, Frederick B., Springfield
Collins, Gretchen D., Macon
Collins, John M., St. Louis
Collodi, George A., Brentwood
Colom, George A., Kansas City
Colwill, Jack M., Columbia
Combs, Joseph J., Chesterfield
Comeau, Richard A., Dexter
Comens, Phillip, St. Louis
Comens, Ruth C., St. Louis
Commerford, John F., St. Charles
Compton, James R., La Habra, Calif.
(Member St. Louis County Medical Society)
Cone, Alfred J., Chesterfield
Connell, Evan S., Kansas City
Conrad, Adolph H., Jr., Clayton
Conrad, Joseph A., Chillicothe
Conrad, Marshall B., St. Louis
Conrad, Raymond C., Springfield
Cook, Galen B., Columbia
Cook, James R., Springfield
Cook, O. W., Caruthersville
Cook, Ralph L., St. Louis
Cook, Thomas B., Richmond
Cooper, Charles S., Kansas City
Cooper, Claude W., Thayer
Cooper, Henry T., St. Louis
Cooper, John H., Kansas City
Cooper, Lawrence E., Ft. Myers, Fla.
(Member Pemiscot County Medical Society)
Cooper, Leo F., Kansas City
Cooper, Maurice E., Columbia
Cooper, R. Lee, Warrensburg
Cooper, Theodore, St. Louis
Cooper, Thomas J., St. Louis
Cope, James C., Columbia
Cope, Joseph S., Lexington
Copher, Glover H., St. Louis
Copp, Ralph, Jr., St. Louis
Corday, Robert J., St. Louis
Cordonnier, Justin, St. Louis
Correnti, Nicholas A., St. Louis
Cortez, Willie S., Mt. Vernon
Cortner, Mary C., Kansas City
Cossins, Carlos E., St. Joseph
Costa, Dominic V., St. Louis
Costello, Cyril J., St. Louis
Costello, Joseph P., Jr., Brentwood
Costen, William S., St. Louis
Costrino, John J., University City
Costrino, Joseph A., St. Louis
Cottey, J. H., St. Charles
Coughlin, Bertrand D., St. Louis
Counsell, Chester M., Kansas City
Courter, Larry P., Kansas City
Cowan, Robert D., Aurora
Cowdry, Edmund V., Jr., St. Louis
Cowherd, Joseph B., Kansas City
Cox, Kenneth E., Kansas City
Cox, Mary E., St. Louis
Cox, William A., Jefferson City
Cox, William L., Liberty
Coxe, William S., St. Louis
Cozart, Duane E., University City
Craig, Irwin T., Joplin
Craig, Owen W. D., St. Joseph
Craig, Richard O., St. Joseph
Crain, James W., Branson
Cramb, Arthur B., Lakeland, Fla.
(Member North Central Counties Medical Society)
Crawford, Archie L., Joplin
Crawford, Katherine J., University City
Crawford, Oral B., Springfield
Crawford, Robert M., Sullivan
Crayton, Billy G., Waverly
Creech, Joseph C., Troy
Crego, Clarence H., Jr., St. Louis
Cremer, Mabelle A., Kansas City
Cremer, William J., Fulton
Cresswell, George F., Potosi
Crews, Robert N., Fulton
Crider, Russell J., St. Charles
Criscione, James R., St. Louis
Crispell, Lawrence S., Joplin
Critchlow, Wm. C., Sikeston
Crites, Edward, Sedgewickville
Crocker, Albert M., Kansas City
Crockett, James E., Kansas City
Croom, Dorwyn W., Malden
Crosby, Alice S., Columbia
(Member Mid Missouri Medical Society)
Cross, Albert D., Trenton
Crossman, Robert W., Webster Groves
Crotty, John P., St. Louis
Crouch, F. Richard, Farmington
Crow, Asa A., Cardwell
Crow, Martin L., Kansas City
Crowe, John T., Cape Girardeau
Crowell, Hugh C., St. Louis
Crozier, Franklin A., Richmond
Culbertson, William F., Kansas City
Culley, Thomas S., Columbia
Cullum, Albert G. J., Middlesboro, Ky.
(Member St. Louis County Medical Society)
Cummings, James H., St. Louis
Cunningham, Darral D., Springfield
Curran, Desmond, Kansas City
Curts, Calvin J., Kansas City
Cutcliff, Daniel J., Kansas City
Cutler, Harold M., St. Louis
Cutler, Harry, St. Louis
Czebrinski, Edward W., St. Louis

D

Daake, John W., St. Louis
Dabbs, Leroy, St. Louis
Dabbs, Wilbur D., Neosho
Dahms, Gustave, St. Louis
Daley, Frank R., Hamilton
Dalton, Arthur R., St. Louis
Dalton, Timothy T., Kansas City
Daman, George A., St. Louis
Dames, Richard J., St. Louis
Damron, Edward O., Elsberry
Damron, Oscar H., Warrensburg
Danforth, William H., St. Louis
Danis, Peter G., St. Louis
Danis, Richard K., St. Louis
Dankner, Arnold, Clayton
Dann, David S., Kansas City
Darnell, Thomas F. B., Columbia
Dash, Udaya N., St. Louis
Daughaday, William H., St. Louis
Daum, Harold F., Sedalia
Davault, George K., Richmond
Davidson, John D., St. Louis
Davidson, Morris, Clayton
Davie, Joseph, St. Louis
Davis, C. B., Nevada
Davis, David O., St. Louis
Davis, Donald R., Kansas City
Davis, Edgar W., St. Louis
Davis, Frank L., St. Louis
Davis, Herbert V., Kansas City
Davis, Irl R., St. Louis
Davis, Jack M., Kansas City
Davis, Jchn J., Overland Park, Kan.
(Member Jackson County Medical Society)
Davis, Kenneth A., Kansas City
Davis, Landis Y., Canton
Davis, Leonard L., Jr., Mexico
Davis, Martin W., St. Louis
Davis, Richard E., Kansas City
Davis, Robert C., Kansas City
Davis, Wilbur L., Charleston
Day, Anthony B., Marshall
Day, John K., Bowling Green
Day, Maxwell, St. Joseph
Deakin, Rogers, St. Louis
Dean, Francis D., Fayette
Dean, Lee W., Jr., St. Louis
Decker, Albert I., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
DeGenova, Gerald H., Ste. Genevieve
DeHovitz, Bernard, St. Louis
Deitchman, Robert B., St. Louis

De Jesus, Alberto, St. Louis
de la Torre, John J., Sullivan
DeMaria, Peter F., Kansas City
Demis, D. Joseph, St. Louis
Demko, William, St. Louis
Demott, John D., Kansas City
DeMotte, John A., Kansas City
Denk, Alan F., St. Louis
Denney, Richard W., Mountain Grove
Denninghoff, James C., Columbia
Dennis, W. Paul, Flat River
Denny, H. M., Union
Dernoncourt, John E., Charleston
De Stefani, Carlo, Chesterfield
DeTar, Burleigh E., Joplin
DeTar, B. E., Jr., Joplin
Dettmer, Robert F., Ironton
Deutch, Max, St. Louis
Devine, John B., St. Louis
Devine, Joyce E., St. Louis
Devine, Mark W., Jr., Kansas City, Kan.
(Member Jackson County Medical Society)
Devins, George S., Kansas City
Dewald, Paul A., St. Louis
De Weese, Marion S., Columbia
Dewein, Edward G., Freeburg, Ill.
(Member St. Louis Medical Society)
Dexheimer, Frank R., Columbia
Deyton, John W., St. Louis
Dickerson, Omas B., Westwood, Calif.
(Member St. Louis Medical Society)
Dickler, Donald J., St. Louis
Diehr, Maurice A., St. Louis
Diekroeger, Manuel L., Boonville
Diemer, Peter A., St. Louis
Dierker, H. D., Lebanon
Dietrich, Karl D., Columbia
Dietz, M. Wendell, Springfield
DiLeo, Senatro W., Jennings
Dill, Foster A., Maplewood
Dillard, Burl M., St. Louis
Dillard, Erin M., Springfield
Dills, Joseph N., Springfield
Dinelli, Frank E., Poplar Bluff
Diveley, Rexford L., Kansas City
Dixon, John R., Brookfield
Dixon, Vewiser L., Kansas City
Dlabal, Luke J., Independence
Dmytryk, Eugene T., St. Louis
Doane, William L., Grandview
Dodd, Robert B., St. Louis
Dodge, Mark, Kansas City
Dodge, Milton, Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Dodson, Danny L., Monroe City
Doering, Robert W., Kansas City
Doggett, Sylvester, Sikeston
(Member West Central Missouri Medical Society)
Doisy, Robert A., Glendale
Dolan, Daniel L., Springfield
Dolan, John T., Jr., St. Louis
Dolezal, Joseph B., Kansas City
Donahoe, James L., St. Louis
Donaldson, Robert C., St. Louis
Donati, Robert M., St. Louis
Donegan, William L., Columbia
Donley, Leo F., Jr., St. Louis
Donley, Robert R., Monett
Donnell, Harold E., De Soto
Donnell, Robert H., Crystal City
Donnell, Thomas A., DeSoto
Donovan, William T., Chesterfield
Dorsch, Ervin H., Independence
Dorsett E. Lee, Indianola, Miss.
(Member St. Louis Medical Society)
Dorton, Robert K., St. Louis
Douglass, Jesse E., Kansas City
(Member Jasper County Medical Society)
Dowd, James F., Jr., St. Louis
Dowell, Donald M., Chillicothe
Dowell, J. Larry, Pattonsburg
Downey, James W., Kansas City
Doyle, Charles R., St. Louis
Doyle, Matthew J., Jefferson City
Drace, Charles C., Jr., St. Louis
Drake, Avery A., Rolla
Drake, Roy F., Kansas City
Drake, Truman G., St. Louis
Drake, William L., Jr., St. Louis
Draney, Thomas E., Kansas City
Draper, Bernard, Boonville
Drennan, James A., San Leandro, Calif
(Member St. Louis Medical Society)
Drescher, Emmett B., St. Louis
Drews, Robert C., St. Louis
Drey, Norman W., St. Louis
Dreyer, Carl J., Webster Groves
Dreyer, Philip V., Huntsville
Dreyer, William F., Houston
Drisko, Robert M., Kansas City
Drowns, Bruce V., Kansas City
Dubuque, Theodore J., Jr., St. Louis
Duden, Charles W., St. Louis
Duemler, John H., Gladden
Duemler, Robert H., St. Louis
Duer, Mildred C., Kansas City
Duffy, Francis G., St. Louis
Duffy, Oliver F., Trenton
Duggan, John J., Jr., Kirkwood
Dulick, Michael, Brentwood
Duling, Gerald J., St. Charles
DuMont, Clement C., St. Joseph
Du Montier, R. J., O'Fallon
Dunaway, Howard A., Sikeston
Duncan, Robert D., Springfield
Duncan, Wm. H., Kansas City
Dunham, Robert H., N. Kansas City
Dunleavy, James D., Kansas City
Dunmire, George Q., Kennett
Dunn, Robert E., St. Louis
Dunshee, Robert E., Maryville
Durnell, Monaford D., Lee's Summit
Durr, Jon W., Columbia
Durst, Henry, Fulton
Dworkin, Saul, St. Louis
Dwyer, Frank X., Kansas City
Dwyer, Hugh L., Kansas City
Dwyer, Reinhardt D., N. Kansas City
Dwyer, Thomas L., Mexico
Dyer, Dallas J., St. Louis

E

Eades, Dee W., St. Louis
Eagleton, Mark D., Clayton
Eanet, Morton P., Kansas City
Earp, Ralph K., St. Louis
Eastwood, Robert A., Springfield
Ebel, Eugene H., St. Louis
Eber, Carl T., St., Louis
Eberle, John P., St. Louis
Eberle, Vincent L., St. Louis
Echterhoff, Harry R., St. Louis
Eck, Birkle, St. Louis
Ecker, Decider, Pacific
Eckert, Clarence T., St. Louis
Ecklund, Archibald M., San Diego, Calif.
(Member St. Louis Medical Society)
Ector, Henry J., Mexico
Edde, Clifford G., Kansas City
Edele, Eugene H., St. Louis
Edmonds, Devilla D., Leawood, Kan.
(Member Jackson County Medical Society)
Edwards, D. R., Sedalia
Edwards, Francis L., Monett
Edwards, Joseph C., St. Louis
Edwards, Theodore F., Kansas City
Edwards, Waldo B., Kirkwood
Efron, Joseph, St. Louis
Egan, Robert C., St. Louis
Egan, Thomas F., St. Louis
Eggers, George W. N., Jr., Columbia
Eggleston, Donald E., Macon
Eggleston, Thomas F., St. Louis
Eidelman, Jack R., St. Louis
Eigel, Edwin G., St. Louis
Eimer, Charles E., St. Louis
Eisemann, Gustave, Kansas City
Eisenmann, Benjamin P., New Haven
Eisenstein, Albert B., St. Louis
Ekern, H. Peter, Mexico
Eklund, Alfred W., Pleasant Hill
Elam, James O., Kansas City
Eldenburg, Donald, Sedalia
Elders, Frank A., Jr., Cuba
Eldridge, Charles J., Kansas City
Elias, David J., Independence
Eliasson, Sven G., St. Louis
Eliscu, Juliette, Joplin
Elkins, Ronald F., Springfield
Eller, C. Howe, Clayton
Ellersieck, Dorothy M., St. Louis
Ellett, William H., Appleton City
Elliott, James R., Pasadena, Calif.
(Member Jackson County Medical Society)
Elliott, Raymond G., Kansas City
Elliott, Wade E., Kansas City
Ellis, Burnett E., Gideon
Ellis, Calvin C., St. Louis
Ellis, Elmer F., Kansas City
Ellis, Francis J., Springfield
Ellis, Harry L., Springfield
Ellison, Leroy E., Maplewood
Ellsworth, Willard, Cainsville
Elrod, Dennis B., Cape Girardeau
Elser, Otto H., Independence
Elson, Julius, Ladue
Emerson, Reynolds L., St. Louis
Emmert, Fred, St. Louis
Engel, Lawrence P., Kansas City
Engelhardt, Robert C., Poplar Bluff
Engelking, David F., Kansas City
Engelmann, Calvin E., Kansas City
English, Milton T., Jr., Kirksville
English, Wallace D., Cardwell
Engman, Martin F., Jr., St. Louis
Enloe, Lawrence D., Jefferson City
Epp, George J., St. Louis
Epple, Kathryn C., Mexico
Epple, Lawrence K., Mexico
Ernst, Edwin C., St. Louis
Ernst, Edwin C., Jr., St. Louis
Ernst, Joseph G., St. Louis
Ernst, Richard E., St. Louis
Ernst, Roland P., St. Louis
Eshelman, Albert D., Independence
Eskeles, Irwin H., St. Louis
Esslinger, Arthur T. J., St. Louis
Estes, Albert M., Cape Girardeau
Estes, Jack M., Ferguson
Etienne, Robert B., St. Louis
Eto, Jackson, St. Louis
Eubank, David F., Kansas City
Eubank, Dillard M., Raytown
Eubank, William R., Kansas City
Eubank, William Y., Kansas City
Evans, Ezra L., Jr., Springfield
Evans, Harry T., Branson
Eversoll, Norton J., Hollywood, Fla.
(Member St. Louis County Medical Society)
Exon, C. Stuart, Jefferson City
Eyermann, Charles H., St. Louis
Eyermann, Edward L., Jr., St. Louis
Eyermann, H. Walter, Warrenton

F

Fair, William L., Chillicothe
Fairchild, James F., Perryville
Fairshter, Alex E., St. Louis
Fakhaury, Donald A., Kansas City
Falk, O. P. J., St. Louis
Fall, Gordon F. F., Hickman Mills
Fallet, Charles E., DeSoto
Fallon, Richard H., St. Louis
Farley, Claude C., Kansas City
Farley, Wm. M., St. Louis
Farney, Jacob P., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Farnsworth, Jesse J., Kansas City
Farrar, Charles B., Cape Girardeau
Farrell, Robert J., St. Louis
Farris, Larry E., St. Louis
Farthing, Fred R., Springfield
Farthing, Gene W., Springfield
Feierbend, Frank L., Kansas City
Feind, Earl E., Rolla
Feinstein, Leon A., St., Louis
Feist, George V., Kansas City
Feldaker, Robert M., St. Louis
Feldman, David, St. Louis
Felix, Robert H., St. Louis
Feller, Harold H., St. Louis
Fellhauer, Carl M., St. Louis
Feltz, Lawrence W., Perryville
Ferguson, Donald S., Kansas City
Ferguson, James T., Kansas City
Ferguson, John P., Jr., Springfield
Ferguson, L. H., Jr., Joplin
Ferguson, Luther J., St. Joseph
Ferguson, Ralph L., Joplin
Ferguson, Robert M., Webb City
Ferguson, Thomas B., St. Louis
Ferguson, Wilson J., Sikeston
Ferrara, John P., St. Louis
Farrell, Thomas E., Jr., Springfield
Ferris, Carl R., Kansas City
Ferro, Anthony L., St. Louis
Finger, Donald H., St. Louis
Fingerhood, Marvin G., St. Louis
Fingert, Hyman H., St. Louis
Fink, Leroy L., St. Louis
Finkel, Barney W., St. Louis
Finkle, Robert H., Independence
Finley, Freeman L., St. Louis
Finn, Murray E., St. Louis
Finnegan, Joseph V., St. Louis
Finney, William O., Chaffee
Fischer, Edward H., N. Kansas City
Fischer, Erich, St. Louis
Fischer, Theodore, Altenburg
Fischer, Thomas J., Hannibal
Fish, Virgil O., St. Louis

Fisher, Joseph L., St. Joseph
Fisher, Stanley D., Sedalia
Fitch, C. H. Max, Springfield
FitzGerald, Leo P., University City
Fitzgerald, Robert H., Independence
Fitzgerald, William T., St. Louis
Flance, Israel J., St. Louis
Flanders, Virgil E., Kansas City
Flanigan, George D., Jr., St. Louis
Flatley, John A., Kansas City
Flavan, David B., St. Louis
Fleishman, Alfred, University City
Fleming, J. Will, Moberly
Fleming, Paul D., Waterloo, Ill.
(Member St. Louis County Medical Society)
Fleming, Robert J., St. Charles
Fleming, Royall B., Kansas City
Fleming, Thomas S., Moberly
Fletes, James W., St. Louis
Florian, Albert J., Tucson, Ariz.
(Member Jackson County Medical Society)
Flotte, Bernard H., St. Louis
Flotte Sylvester A, St. Louis
Flynn, Edward P., St. Louis
Flynn, James M., Kansas City
Flynn, John T., St. Louis
Flynn, Joseph E., St. Louis
Flynn, Thomas T., St. Louis
Focht, Ralph H., Strafford
Fogerson, Virginia L., Branson
Folck, William P., Kansas City
Folkner, A. L., Warrensburg
Ford, Lee T., Jr., St. Louis
Ford, Walter W., Gordonville
Ford, William, Farmington
Foreman, Phillip B., Hannibal
Forgrave, John R., St. Joseph
Forgrave, Leon P., St. Joseph
Forman, George W., St. Joseph
Forman, Louis H., Kansas City
Forsen, James A., St. Louis
Forsman, Waldo W., Jr., St. Louis
Forster, Armand C., St. Louis
Forsyth, B. Todd, St. Louis
Forsythe, Robert W., Kansas City
Forti, John J., St. Louis
Foster, Howard M., St. Louis
Foster, Jack L., Desloge
Fouts, Dallas B., Sr., Independence
Fowler, Fred D., Kansas City
Fowler, I. Charles, N. Kansas City
Fowler, James W., Kansas City
Fowler, Marvin L., West Plains
Fox, Leon J., St. Louis
Fox, Robert E., St. Louis
Fozzard, Harry A., St. Louis
Frame, Homer G., Springfield
Francis, William C., Springfield
Francka, W. Frank, Hannibal
Frank, Alvin R., St. Louis
Franklin, Curtis U., Kansas City
Franklin, Harold A., St. Louis
Franklin, Max S., St. Louis
Fraser, Richard A., Kansas City
Frawley, Thomas F., St. Louis
Frazier, Robert L., Charleston
Fredeen, Robert C., Kansas City
Frederick, Raymond O., St. Louis
Freedman, Aaron D., Kansas City
Freedman, Harold, St. Louis
Freedman, Ruth S., St. Louis
Freeman, David M., St. Louis
Freeman, Spencer L., Kirksville
Freiheit, Harold J., St. Louis
Freiman, S. Michael, St. Louis
Freimuth, L. E., St. Louis
Frein, Donald E., Leeton
Frerking, Herbert W., St. Louis
Freund, Samuel J., St. Louis
Frick, John P., Kansas City
Friedman, Bernard, St. Louis
Friedman, Ira J., St. Louis
Friedman, Morris L., Kansas City
Friedman, Paul L., St. Louis
Friedman, Robert H., St. Louis
Friedrich, Ernst R., St. Louis
Fries, Armand D., St. Louis
Fries, John W., St. Louis
Friskel, Arthur K., St. Louis
Fritsch, Andrew J., Joplin
Fritzlen, Thomas J., Kansas City
Froelich, Edwin J., Lebanon
Froelich, R. W., Lebanon
Froelich, Robert E., Columbia
Frumson, Guy H., St. Louis
Fryer, Minot P., St. Louis
Fuchs, George J., Barnett
Fuchs, George J., Jr., Columbia
Fuhrman, Donald L., Kansas City
Fujita, Milton T., St. Louis
Fulkerson, Wilbur E., Higginsville
Fulks, Richard B., California
Fullgrabe, Emil A., Jefferson City
Fulton, Albert E., Kansas City
Funsch, Robert E., St. Louis
Furla, Gus J., St. Louis
Furlow, Leonard T., St. Louis
Fury, Tex E., Kansas City
Fuson, Levi H., St. Joseph
Fuson, William A., Trenton

G

Gaffney, Caldwell J., St. Louis
Gafney, George T., St. Louis
Gagliardo, Joseph, St. Louis
Gaines, Quentin M., Kirkwood
Gainey, Harold L., Kansas City
Galbol, Harley, Excelsior Springs
Galbreath, Ashford M., Kansas City
Gale, Arthur H., Overland
Gale, Joseph F., Chillicothe
Gale, Philip R., St. Louis
Galeota, William R., Columbia
Gall, Ira, St. Louis
Gallagher, Lionel M., California
Gallagher, Neil I., St. Louis
Gandlmayr, Jack M., St. Louis
Ganley, William C., Kansas City
Gansloser, Wilbert M., Clayton
Gantner, George E., Jr., St. Louis
Gantt, Ernest S., Jr., Mexico
Gantz, John A., Affton
Garb, Solomon, Columbia
Garcia, Charles L., Mexico
Gard, Raymond F., Independence
Gardner, Joseph W., Reeds Spring
Garfinkel, Bernard T., St. Louis
Garner, Lynn M., Jefferson City
Garrett, Glen H., Columbia
Garrison, Roy F., Kansas City
Garrison, T. W., Camdenton
(Member Mid Missouri County Medical Society)
Gary, George, Marceline
Gaskins, Charles W., Ironton
Gaskins, John H., Kansas City
Gass, Herbert H., St. Louis
Gauer, Robert J., Kansas City
Gaunt, Frank P., Webster Groves
Gaunt, William D., Columbia
Gay, Andrew J., St. Louis
Gay, Elizabeth K., St. Louis
Gay, George R., Springfield
Gearhart, Merriam, Bethany
Gearhart, Wilbur H., St. Louis
Gedney, William B., Valley Park
Geha, Braham J., Kansas City
Geiger, William A., Jr., Kansas City
Geise, August W., Jr., St. Louis
Geisler, Gerald F., St. Louis
Gempel, Paul A., Kansas City
Gentry, Enoch N., Jr., Kansas City
Gentry, Marvin C., Ava
Gentry, Merritt L., Warsaw
Gentsch, Kenneth W., St. Louis
German, Walter A., Jr., Springfield
Gernstetter, Sangwill L., Poplar Bluff
Gerst, Aloysius C., St. Louis
Gibson, David M., Kansas City
Gibson, Helen F., St. Louis
Gibstine, Marvin H., St. Ann
Giddings, Frank C., Springfield
Giem, Ross N., Sullivan
Gieselman, Ralph V., St. Louis
Giesler, Donald H., Osceola
Gilcrest, Harry R., St. Louis
Gildea, Edwin F., St. Louis
Gildea, Margaret C. L., St. Louis
Gilden, Jerome J., St. Louis
Gilfillan, Earl E., Memphis
Gilkey, Harry M., Kansas City
Gillespie, Roy, Branson
Gillespie, William J., St. Louis
Gilpin, Doris C., St. Louis
Ginardi, Donald E., Kansas City
Ginsberg, Norman A., Kansas City
Gish, Rutledge, Fulton
Gist, William W., Kansas City
Gitt, Joseph J., St Louis
Gladney, John H., St. Louis
Glascock, Donald W., Palmyra
Glass, Robert L., Sedalia
Glass, William J., Jr., Monett
Glassberg, Bertrand Y., St. Louis
Glasscock, Ernest L., Kansas City
Gleason, David C., St. Louis
Glenn, Elmer E., Forsyth
Glen, Robert R., Springfield
Glennon, William P., St. Louis
Glick, Harry N., St. Louis
Glover, Kenneth, Mt. Vernon
Gnade, Albert J., St. Louis
Goebel, Joan M., St. Louis
Goell, Robert S., St. Louis
Goldberg, Isadore E., Braymer
Goldenberg, Sidney, St. Louis
Goldenson, Max J., St. Louis
Goldfarb, Alvin, St. Louis
Goldkamp, John D., St. Charles
Goldman, Alfred, St. Louis
Goldman, Arnold M., St. Louis
Goldman, Hyman J., St. Louis
Goldman, Melvin L., St., Louis
Goldman, Stanley L., Kansas City
Goldner, John C., Columbia
Goldsich, Edward, Kansas City
Goldstein, Bernard, St. Louis
Goldstein, Marcy A., St. Louis
Goldstein, Marvin F., San Francisco, Calif.
(Member Jackson County Medical Society)
Goldstein, Phillip J., St. Louis
Gollub, Samuel W., St. Louis
Gomez, Cesar A., Jr., St. Louis
Gonser, Karl B., Sedalia
Gonzalez, M. Garza, Warrensburg
Goodman, J. N., Cherokee Village, Ark.
(Member St. Louis County Medical Society)
Goodman, Le Roy, Kansas City
Goodman, Nathaniel, St. Louis
Goodrich, Harold A., Webster Groves
Goodson, Wm. H., Jr., Kansas City
Goolsbee, Robert L., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Gordon, James S., Jefferson City
Gordon, Morris P., Kansas City
Gore, Glenn L., St. Charles
Gorelick, David F., Springfield
Gorla, Wayne O., St. Louis
Gorrell, Ned B., Grandview
Gose, Don F., Springfield
Gottsch, Joseph C., Prairie Village, Kan.
(Member Jackson County Medical Society)
Grabau, Gene H., St. Louis
Grable, James D., Portageville
Grabske, Charles F., Independence
Grabske, Charles F., Jr., Independence
Graeser, Richard G., Kirkwood
Graff, Ralph J., St. Louis
Graham, James W., Kansas City
Graham, Wallace H., Kansas City
Graneto, Joseph A., St. Louis
Grant, Albert J., Hannibal
Grant, Claude S., St. Joseph
Grant, John M., St. Louis
Grant, Neville, St. Louis
Grant, Samuel B., St. Louis
Grauerholz, James W., Kansas City
Graul, Elmer G., St. Louis
Graul, Walter P., St. Louis
Graves, Arthur J., Mt. Vernon
Graves, F. Burton, Joplin
Gray, Walter C., St. Louis
Greaney, John F., St. Louis
Grebel, Clement B., St. Louis
Greditzer, Arthur S., Santa Barbara, Calif.
(Member St. Louis Medical Society)
Green, D. M., St. Louis
Green, J. Richard, Independence
Green, Manuel E., St. Louis
Green, Stanley L., Independence
Green, William L., St. Louis
Green, William R., St. Louis
Greenberg, Charles, Los Angeles, Calif.
(Member Buchanan County Medical Society)
Greene, Harry L., Hannibal
Greene, W. Wallace, Kansas City
Greenman, Marshall B., Clayton
Gregory, Ralph W., Kansas City
Gresick, Robert J., St. Louis
Griege, Charles W., Florissant
Griffin, Evelyn, Buffalo
Griffin, Olin A., Jr., Buffalo
Griffin, William T., Columbia
Griffith, John A., Jr., Kansas City
Griffith, John K., Koch
Griggs, James Y., St. Louis
Grim, Edward M., Kirksville
Grimes, Manning E., St. Joseph
Grindon, Joseph B., St. Louis
Griot, Albert J., St. Louis
Groce, George, Fulton
Gronau, Axel R., St. Louis

Grossman, Marvin, Fredericktown
Grove, Gulp W., Knobnoster
Growdon, John A., Kansas City
Grubb, Paul H., Joplin
Grueb, Paul M., St. Louis
Gruenfeld, Gerhard E., St. Louis
Grunberg, Emile, St. Louis
Grundmann, William H., St. Louis
Guastello, Mario J., Shawnee Mission, Kan. (Member Jackson County Medical Society)
Gubin, Alan S., Caruthersville
Guccione, Joseph B., St. Louis
Guffey, Don C., Kansas City
Guhleman, Henry V., Jr., Jefferson City
Guldner, Edmond, Lamar
Gulick, Charles R., St. Louis
Gullett, Charles C., Kansas City
Gum, William R., St. Louis
Gummels, Belmont B., St. Louis
Gundle, Sigmund, Kansas City
Gunn, Jack, Versailles
Gunn, Richard W., Kansas City
Gunn, Walter T., St. Louis
Gunter, Joe S., St. Joseph
Gurnee, Landon H., Jefferson City
Guze, Samuel B., St. Louis
Gxel, Ronald, St. Louis

H

Habib, Henry N., Kansas City
Hackett, Paul R., St. Louis
Hackmeyer, Rubin, St. Louis
Haddock, James N., Webster Groves
Haffner, Heinz, St. Louis
Hagan, Daniel J., St. Louis
Hagar, David L., Kansas City
Hagebusch, Omer E., St. Louis
Hagemann, Paul O., St. Louis
Haggen, Margaret E., Kansas City
Hahn, Andrew L., Springfield
Haight, John M., Kansas City
Haith, Edward E., Kansas City
Haith, Walter F., Kansas City
Hall, David G., Columbia
Hall, David W., Springfield
Hall, Durward G., Springfield
Hall, Eugene W., Ferguson
Hall, Frank W., Cape Girardeau
Hall, James W., Kansas City
Hall, Lee A., Clayton
Hall, Marvin F., Joplin
Hall, Preston C., St. Louis
Hall, Ralph R., Kansas City
Hall, Robert A., St. Louis
Hall, Thomas B., Kansas City
Hall, William K., St. Louis
Halloran, Mark J., St. Louis
Halperin, Phillip H., Kansas City
Halpern, Lawrence K., St. Louis
Hamel, Herbert A., Kansas City
Hamill, Robert W., Kansas City
Hamilton, Caldwell K., Clayton
Hamilton, Eugene G., Clayton
Hamilton, Eugene H., Joplin
Hamilton, Wiliam P., Aurora
Hamlin, Wyeth, Hannibal
Hammes, Roman E., St. Charles
Hammler, Christinana V., St. James
Hammond, David L., St. Louis
Hammond, John J., St. Louis
Hampton, Henry E., St. Louis
Hampton, Oscar P., Jr., St. Louis
Hampton, Stanley F., St. Louis
Hanan, Ernest B., Springfield
Handler, Eric, St. Joseph
Handler, Fred P., Jefferson City
Hanes, Lee D., Kansas City
Hanes, Robert L., Kansas City
Hankin, Norman M., St. Louis
Hanlon, C. Rollins, St. Louis
Hanlon, Russell C., St. Charles
Hanna, Fikri M., Columbia
Hanna, Richard E., St. Louis
Hannas, Raymond R., Kansas City
Hansbrough, Eugene T., Poplar Bluff
Hansel, French K., St. Louis
Hansen, Arthur L., Butler
Hanser, S. Albert, St. Louis
Hanser, Theodore H., St. Louis
Hanss, Armand W., Springfield
Hardacre, Ruth A., Kansas City
Hardin, William B., Jr., St. Louis
Hardwicke, Henry M., Ashland
Hardy, Guerdan, Clayton
Hardy, Henry M., Shawnee Mission, Kan. (Member Jackson County Medical Society)
Hardy, John W., Kansas City
Hardy, Joseph A., Jr., St. Louis
Hardy, Samuel W., St. Louis
Hardy, Stanton L., Desloge
Harell, Alex, St. Louis
Harford, Carl G., St. Louis
Harkins, William B., St. Louis
Harkness, Harry, Warrensburg
Harland, Robert E., Ironton
Harless, Morris S., Kansas City
Harlow, Lloyd M., Kansas City
Harmon, Ben C., Springfield
Harms, Florian L., Salisbury
Harned, Bert W., Kansas City
Harner, Casper G., St. Joseph
Harper, Fleming B., St. Louis
Harrell, Henry J., Summerfield, Fla. (Member Dallas-Hickory-Polk County Medical Society)
Harrin, William R., Kansas City
Harris, A. Basil, St. Louis
Harris, Boyd L., San Diego, Calif. (Member Jackson County Medical Society)
Harris, Charles W., St. Louis
Harris, Hinman A., University City
Harris, Robert J., Columbia
Harris, Solon P., St. Louis
Harrison, Lee B., St. Louis
Hart, L. Wayne, Kansas City
Hart, Martin M., Salem
Hartenbower, Carey A., Kansas City
Harting, Hugh R., St. Louis
Hartman, Paul T., St. Louis
Hartnett, Leo J., St. Louis
Hartstein, Jack, University City
Hartwig, Frederick H., Kansas City
Hartwig, John A., St. Louis
Hartwig, Raymond W., Shawnee Mission, Kan. (Member Jackson County Medical Society)
Harvey, Harold D., Springfield
Harwell, J. Larry St. Louis
Harwell, J. Lester, St. Louis
Hasek, James A., Cabool
Hasenmueller, James J., St. Louis
Hash, Helen E., Kansas City
Hashinger, Edward H., La Jolla, Calif. (Member Jackson County Medical Society)
Hasselblad, Oliver W., New York, New York (Member North Central Medical Society)
Hasson, Jack, St. Louis
Hasson, Robert, Moberly
Hata, Daikichi, Boonville
Hatfalvi, Bela I., St. Louis
Haun, Cosmo L., Columbia
Hauptmann, William L., St. Louis
Hausheer, Herman J., Independence
Haw, Marvin T., Jr., Columbia
Hawk, Bray O., St. Louis
Hawker, William D., St. Louis
Hawkins, George L., Jr., St. Louis
Hawkins, Lee W., Chesterfield
Hayden, Loyola F., St. Louis
Hayek, Wesley E., St. Louis
Hayes, Lawrence L., Kansas City
Hayes, Paul W., St. Joseph
Haynes, James W., St. Louis
Haynes, Pugh, Jr., St. Louis
Haynes, Robert C., Marshall
Haynes, Solon F., Kansas City
Haynie, William W., Butler
Hazen, Robert M., Kansas City
H'Doubler, Charles E., Springfield
H'Doubler, Francis T., Jr., Springfield
H'Doubler, Peter B., Springfield
Headrick, John A., St. Louis
Hecker, Joseph E., Poplar Bluff
Hedges, Richard C., Excelsior Springs
Heeb, Max A., Sikeston
Heideman, Milo L., St. Louis
Heidenreich, Harry L., St. Louis
Heifetz, Carl J., St. Louis
Heilman, Edward J., Kansas City
Hein, Paul A., Jr., St. Louis
Heinbecker, Peter, St. Louis
Helbing, Edward J., Alameda, N. M. (Member St. Louis County Medical Society)
Heller, B. Marcus, Kansas City
Hellerstein, Stanlev, Kansas City
Hellweg, Charles E., Mt. Vernon
Hellweg, Raymond W., St. Louis
Helm, James O., New Florence
Helman, Richard G., Kansas City
Henderlite, John W., St. Louis
Hendin, Aaron, Olivette
Hendren, Glenn W., Liberty
Hendren, Thomas H., Kearney
Hengen, Henry E., Bridgeton
Henke, Charles F., St. Louis
Hennelley, John J., St. Louis
Henry, Clarke Latta, Kansas City
Henschel, Eugene V., St. Louis
Hensley, Daniel R., Lilbourn
Herbert, Charles T., Cape Girardeau
Herman, Allen I., St. Joseph
Herman, Morris, St. Louis
Hernandez, Salvadore, St. Louis
Herrman, George V., Kansas City
Hersperger, Webb S., St. Louis
Hertel, Ronald C., St. Louis
Hetlage, Louis P., Troy
Heusler, Anton F., St. Louis
Heutel, Lee B., Ballwin
Heyer, Oscar C., St. Louis
Hibbard, Blaine Z., Kansas City
Hickerson, William H., Independence
Hickey, Glen M., St. Louis
Hickey, James L., St. Louis
Hickey, Robert F., St. Louis
Hicks, Robert S., St. Louis
Higgins, John W., St. Louis
Higgins, Philip C., St. Louis
Higgins, Robert S., Kansas City
Hilbert, Paul H., St. Louis
Hildreth, H. Rommel, St. Louis
Hill, Jack H., Kansas City
Hill, James H., Fulton
Hill, XaCadene A., St. Louis
Hilton, Paul E., Kirksville
Hinds, R. David, Hannibal
Hink, Frederick W., Independence
Hirsch, Joe E., Kansas City
Hoadley, William D., Kansas City
Hoard, Joseph W., Webster Groves
Hobbs, John E., St. Louis
Hoctor, Emmett F., Farmington
Hodge, Robert H., N. Kansas City
Hodges, Fred J., III, St. Louis
Hodgson, Frank H., Kansas City
Hoelscher, Harold F., Warrenton
Hoenig, Hector F., Jr., Bethany
Hoeper, Samuel D., Grandview
Hoffman, Jacob S., Kansas City
Hoffmann, Augustin D., St. Louis
Hoffmann, R. Lee, Kansas City
Hoffmann, Ronald E., St. Louis
Hofsommer, Armin C., Menlo Park, Calif. (Member St. Louis Medical Society)
Hofstatter, Leopold, St. Louis
Hofstatter, Lilli, St. Louis
Hogan, Daniel F., Manhattan, Kan. (Member Jackson County Medical Society)
Hogan, John R., St. Louis
Hogan, Patrick C., St. Louis
Hogancamp, Charles E., St. Louis
Hogancamp, Glenn E., Ballwin
Hogeboom, George W., Delray Beach, Fla. (Member Green County Medical Society)
Hogue, Frank S., Kansas City
Hoja, W. Alexander, Poplar Bluff
Holbrook, Charles K., St. Louis
Holcomb, John K., Cape Girardeau
Holemon, R. Eugene, St. Louis
Holland, Robert D., Springfield
Holley, Donald B., Camdenton
Hollingsworth, Ray S., Clinton
Hollis, Richard W., Springfield
Hollo, Vencel W., St. Louis
Hollweg, Kenneth C., Kansas City
Holmes, Daniel E., Springfield
Holmes, David R., Springfield
Holscher, Edward C., St. Louis
Holt, Earl P., Jr., St. Louis
Holt, Waldo S., Kansas City
Holt, William E., St. Louis
Holton, Edward B., Independence
Holtz, Alan S., St. Louis
Holtz, Sumner, St. Louis
Holtzman, Samuel, Joplin
Hook, Waller G., Kansas City
Hoover, Bernard L., St. Louis
Hoover, H. Lee, Jr., Springfield
Hope, James L., Lebanon
Hopkins, Florian G., Gideon
Hopkins, James P., Kansas City
Hopkins, Thomas J., Sedalia
Hopkins, T. Spencer, Sedalia
Hornback, Edward R., Joplin
Horner, Glennon A., Marceline
Horner, John L., St. Louis
Hornstra, Robijn K., Kansas City
Horst, Otto C., Springfield
Horton, James D., Springfield
Horwitz, Irwin B., St. Louis
Hosto, Leland E., St. Louis

Houck, Russell M., Kecoughtan, Va.
(Member Clay County Medical Society)
Houston, Vincent T., St. Louis
Howden, Thomas L., St. Joseph
Howe, Albert L., St. Louis
Howe, Louis F., St. Louis
Howell, Billy D., Brookfield
Hoxworth, Gerald M., Cape Girardeau
Hubbell, Ira G., Springfield
Huber, Erwin T., St. Louis
Huber, K. Herbert, Richmond
Huber, Lasley E., Moberly
Huck, Frank F., Fenton
Huck, Richard F., St. Louis
Huckstep, Robert A., Farmington
Hudgens, Richard W., St. Louis
Huggins, Albert M., St. Louis
Hughes, Gerald E., Kansas City
Hughes, Judson M., Columbia
Hughes, Robert G., St. Louis
Hughes, Shelby B., Clinton
Hulbert, Bernard, St. Louis
Hulstra, Johannes F. W., Springfield
Hummel, Anton J., St. Louis
Hummel, William C., St. Louis
Humphrey, George E., Santa Fe, N. M.
(Member St. Louis Medical Society)
Humphrey, James, Mound City
Humphreys, Edward T., Boonville
Hungate, Carroll P., Kansas City
Hunleth, Frank E., St. Louis
Hunt, Claude J., Kansas City
Hunt, John W., Jr., Farmington
Hunt, Thomas R., Kansas City
Hunt, William J., St. Joseph
Hunter, Martin P., Kansas City
Hunzicker, Warren J., Kansas City
Hurst, Ben B., Lebanon
Hurst, Wilfred W., Joplin
Hurwitt, Frank, Kansas City
Hustead, Robert F., Leawood, Kan.
(Member Jackson County Medical Society)
Hustead, George W., Parma
Hutchinson, James H., Jr., St. Louis
Hutchinson, William B., St. Louis
Hutto, A. Herman, St. Louis
Hyde, Lawrence L., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Hyman, Anna, St. Louis

I

Ibaviosa, Alfred C., Crystal City
Ide, Carl H., Columbia
Ide, Lucien W., St. Joseph
Imes, Elvin D., Maryville
Ingham, Walton C., Kansas City
Inkley, John J., St. Louis
Irick, Carl C., Naples, Fla.
(Member St. Louis County Medical Society)
Irvin, William M., St. Louis
Irwig, Fred, Kansas City
Isbell, Charles H., Carthage
Isom, Waldo B., Knox City
Israel, Milton R., St. Louis
Ittner, George W., Jr., St. Louis
Ivy, Henry B., Springfield
Izmirlian, Grant, St. Louis

J

Jackson, Edward K., Clarksville
Jackson, Haywood R., Kansas City
Jackson, Robert L., Columbia
Jackson, Vernon B., Fulton
Jackson, William R., Kansas City
Jackson, William R., Maryville
Jacob, Walter P., Kansas City
Jacobs, Charles C., St. Louis
Jacobs, Frederick A., St. Louis
Jacobs, Morton, Kansas City
Jacobs, Walter H., Kansas City
Jacobsohn, Warren Z., St. Louis
Jaeger, Joseph N., Jackson
James, Norman A., Phoenix, Ariz.
(Member St. Louis Medical Society)
James, Otis E., Jr., Kansas City
Jameson, James E., Springfield
Janney, James G., Jr., St. Louis
Jansen, Robert, Kansas City
Jarvis, James A., Kansas City
Jaudon, Joseph C., Clayton
Javaux, Everett J., St. Louis
Jean, J. Ted, St. Louis
Jeans, Virgil, Joplin
Jenab, Morteza, Kansas City
Jennett, James H., Kansas City
Jensen, Joshua E., St. Louis
Jick, Sidney, St. Louis
Jimenez, Jose, Farmington
Joffe, Irwin, Paragould, Ark.
(Member Dunkin County Medical Society)
Johnson, C. Laurence, Kansas City
Johnson, Charles S., Warrensburg
Johnson, Earl W., Cape Girardeau
Johnson, George A., Springfield
Johnson, George L., Ft. Benning, Ga.
(Member Greene County Medical Society)
Johnson, Grover C., Marthasville
Johnson, James S., Kansas City
Johnson, Joseph E., Kansas City
Johnson, Maurice N., St. Louis
Johnson, Mitchell D., Ferguson
Johnson, Morris B., Grandview
Johnson, Roy, Ferguson
Johnson, Richard E., Columbia
Johnson, Thomas M., Kansas City
Johnson, Warford B., Springfield
Johnson, William A., Kansas City
Johnson, William F., Springfield
Johnston, Joseph L., Springfield
Johnstone, John, Jr., Kirkwood
Johnstone, Paul N., Kansas City
Jolly, Benjamin N., Mexico
Jolly, William H., Mexico
Jonas, Harry S., Jr., Independence
Jones, Andrew B., St. Louis
Jones, Augustin, St. Louis
Jones, Dorothy J., St. Louis
Jones, Edna M., Clinton
Jones, Edward S., Harrisonville
Jones, Gale O., Kansas City
Jones, Grey, St. Louis
Jones, James B., St. Louis
Jones, James H., St. Louis
Jones, John B., Kirksville
Jones, Keith D., Warrensburg
Jones, Marion E., Kansas City
Jones, Otey S., St. Louis
Jones, Richard A., St. Louis
Jones, Theodore R., Kansas City
Jones, Victor, Brentwood
Jones, Vincent L., St. Louis
Jordan, Edward J., St. Louis
Jordan, Walter R., Barnhart
Jorstad, Louis H., St. Louis
Joseph, Harold J., Ladue
Joslyn, Harold L., St. Louis
Jost, Charles A., St. Louis
Jotte, Richard F., St. Ann
Joyer, Robert M., St. Louis
Judo, Donald, St. Louis
Juden, Alexander G., Cape Girardeau
Judge, Walter T., Crystal City
Judy, Joseph D., Ferguson
Jung, J. Marshall, Illmo
Justus, John B., Kansas City

K

Kahn, Lawrence, St. Louis
Kahn, Marvin, Kansas City
Kaiser, George C., St. Louis
Kallenbach, Glen P., Mexico
Kamada, Tsutomu, O'Fallon
Kamakas, Nicholas, St. Louis
Kaminsky, Watson W., St. Louis
Kamuran, Ozgoncu, St. Louis
Kanagowa, Hajime H., Jefferson City
Kanarek, Joseph, Kansas City
Kane, Clyde E., St. Louis
Kanter, Arnold N., Kansas City
Kantor, Julius M., Kansas City
Kantor, Samuel, Kansas City
Kaplan, Albert, St. Louis
Kappesser, Netajean B., St. Louis
Kappesser, Roland C., St. Louis
Karandeff, Apostle D., St. Louis
Kardesch, Milton, St. Louis
Karl, Michael M., St. Louis
Karraker, Alvan G., Farmington
Karsh, Robert S., St. Louis
Kartus, Irving, Kansas City
Kaskie, Clifford R., Clayton
Kasten, Melvin C., Cape Girardeau
Katz, M. Richard, St. Louis
Katz, Milton, Kansas City
Kauffman, Ruth, Versailles
Kaufmann, Herbert H., Kansas City
Kaul, Philip G., Kansas City
Kay, Billy F., Lee's Summit
Kayes, Jack, St. Louis
Keairnes, Harold W., Independence
Kealhofer, George C., Kansas City
Keeble, Charles B., St. Louis
Keeler, James E., Kansas City
Keenay, John J., St. Louis
Keffler, Karl L., St. Louis
Kehoe, John J., St. Louis
Keim, John H., Cape Girardeau
Keller, Louis, St. Louis
Keller, Maurice J., St. Louis
Keller, Robert M., Wentzville
Kellett, John G., Webster Groves
Kelley, Gilbert B., Savannah
Kelley, Ralph R., Savannah
Kelley, Robert W., St. Louis
Kelling, Douglas G., Waverly
Kelling, Jordan, Waverly
Kelly, Eugene H., Ironton
Kelly, Marshall W., Jefferson City
Kelly, R. Emmet, St. Louis
Kelsey, Kenneth L., Aurora
Keltner, Raymond M., Jr., St. Louis
Kendall, Charles A., Independence
Kendall, Forrest H., Washington, D. C.
(Member Jackson County Medical Society)
Kendig, John H., St. Louis
Kendis, Joseph B., St. Louis
Kennard, George K., Kansas City
Kenney, Roy E., Neosho
Kent, Bela K., Kansas City
Kent, Clifford F., Kansas City
Keown, Kenneth K., Columbia
Kepler, Earl C., Fulton
Kernodle, Jefferson D., Kansas City
Kerr, David N., St. Louis
Kerr, Frank T., Monett
Kessler, Joseph J., St. Louis
Kessler, Sheldon, Florissant
Ketcham, William M., Kansas City
Ketterman, Grace H., Shawnee Mission, Kan.
(Member Jackson County Mdical Society)
Ketterman, Herbert L., Kansas City
Kettner, Edward G., Kansas City
Key, James S., Springfield
Keyes, Edward L., Clayton
Kibbe, Edgar A., California
Kieber, Robert W., St. Joseph
Kieffer, Roland S., St. Louis
Kieffer, Victor B., Jr., St. Louis
Kienberger, Paul A., Independence
Kiene, Richard H., Kansas City
Kienzle, Edward C., St. Louis
Kilker, Clarence H., St. Louis
Kilker, Donald E., St. Louis
Kilo, Charles, St. Louis
Kimball, Ireland W., Kansas City
Kimball, Merritt H., Kansas City
Kimberlin, Herbert C., Trenton
Kimelman, Nathan, St. Louis
Kimes, Ira D., Cameron
Kinder, James A., Cape Girardeau
King, Elbert R., Boise, Idaho
(Member West Central Missouri Medical Society
King, Eustace E., III, St. Louis
King, Francis C., Kirkwood
King, J. Tenbrook, Kansas City
King, John V., Webster Groves
King, Lucy J., St. Louis
King, Morris K., St. Louis
King, Phillip E., Liberty
King, Richard H., Clinton
King, Walter R., Kansas City
Kingsbury, Helen, Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Kingsland, Robert C., Clayton
Kinsella, Edward D., St. Louis
Kinsella, Peter W., St. Louis
Kinsella, Ralph A., St. Louis
Kinsella, Ralph A., Jr., St. Louis
Kipnis, David M., St. Louis
Kirk, Robert V., Kansas City
Kirschman, Robert E., Joplin
Kirstein, Melvin B., St. Louis
Kirtz, Louis P., St. Louis
Kiser, David M., Kansas City
Kissane, John M., St. Louis
Kister, George E., St. Charles
Kistner, William F., St. Louis
Kitchen, William M., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Klaff, Daniel D., St. Louis
Klebba, Larry B., Jefferson City
Klein, Andrew G., St. Louis
Klein, Arnold G., St. Louis
Klein, Bert H., St. Louis
Klein, Edward H., Kansas City
Klein, Saul J., St. Louis
Kleinschmidt, Clinton, St. Louis
Klenk, Charles L., St. Louis
Klepinger, Dayton P., Neosho

Klein, Carlyn M., St. Joseph
Kline, Edmund W., St. Joseph
Klinge, Frederick W., St. Louis
Klingner, George M., Springfield
Klingner, George M., Jr., Springfield
Klinkerfuss, George H., St. Louis
Klippel, Allen P., Clayton
Klippel, Bernhardt, Wm., St. Louis
Kloecker, Herman J., St. Louis
Kloecker, Richard J., St. Louis
Kloecker, Robert P., St. Louis
Klym, Nicholas, St. Louis
Knabb, Arthur D., Springfield
Knabb, Harris, Springfield
Knabb, Henry F., Jr., Springfield
Knabb, Kenneth E., Springfield
Kneal, E. Ellsworth, St. Louis
Kneibert Fred L., Poplar Bluff
Knepper, Paul A., St. Joseph
Knese, Luke A., St. Louis
Knight, Franklin P., St. Louis
Knight, John S., Kansas City
Knight, Lyle B., Lee's Summit
Knight, William A., Jr., St. Louis
Knipschild, Bedford F., Marshall
Knowles, R. R., St. Louis
Knoch, H. Kermit, Kansas City
Knock, Henry L., Kirkwood
Knowlton, Norman P., Jr., St. Louis
Koch, Robert E., Clayton
Koehler, Charles A., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Koehler George A., St. Louis
Koehler, John W., Joplin
Koehler, P. Ruben, St. Louis
Koenig, Marvin I., St. Louis
Koerner, Kenneth A., St. Louis
Koessel, Arthur W., St. Louis
Kohler, Eugene J., St. Louis
Kohler, Louis H., St. Louis
Kohler, Monte R., Bolivar
Kolze, Vernon W., Springfield
Komanetsky, William M., St. Louis
Konikov, Nadya, St. Louis
Konzelmann, John A., St. Louis
Koon, Ben H., Bolivar
Koontz, Paul G., Kansas City
Kopp, Jules H., St. Louis
Kopp, Leonard J., St. Louis
Koppenbrink, Walter E., Jr., Higginsville
Korn, Robert L., Clayton
Korth, William M., Kansas City
Kotner, Lawrence M., St. Louis
Koutsoumpas, William V., St. Louis
Kovac, Albert P., Kansas City
Kowert, Edward H., St. Louis
Kozal, Francis L., Crystal City
Kozlowski, Albert E., St. Louis
Kraft, Edward O., Brentwood
Kraft, Jacob, Kansas City
Kramer, Fred, St. Louis
Kramolowsky, Helmuth H., St. Louis
Kraner, Justin F., St. Louis
Kranson, Seymour J., Independence
Kratz, Frederick W., Liberty
Kratz, Paul E., Cape Girardeau
Krause, G. Lynn, Jr., St. Louis
Krause, Richard M., St. Louis
Krieger, John L., St. Louis
Krebs, Joseph M., Clayton
Krojanker, Rolf, St. Louis
Kromer, Charles, St. Louis
Kubin, Milford T., Columbia
Kubitschek, Paul F., St. Louis
Kuebrich, Thomas C., Ferguson
Kuehner, Marvin E., St. Louis
Kuenzi, Donald E., Kansas City
Kuhlman, Robert E., St. Louis
Kuhn, John R., Jr., Joplin
Kuhn, Nobuko O., St. Louis
Kuhn, William F., II, Kansas City
Kulowski, Jacob, St. Joseph
Kurth, Robert K., St. Louis
Kurz, Rudolph F., Alton, Ill.
(Member St. Louis Medical Society)
Kutryb, Walter J., St. Louis
Kuttner, Marianne, St. Louis
Kyger, Fred B., Kansas City
Kyger, John E., Independence
Kyner, Thomas A., Kansas City

L

Lachance, Leopold, Centralia
Lacy, Paul E., St. Louis
Ladd, Charles B., St. Louis
Ladenson, Roland P., Columbia
LaDriere, Raymond J., St. Louis
Laffoon, France L., Vista, Calif.
(Member Jackson County Medical Society)
LaHue, Lilburn D., Butler
LaHue, William C., Lexington
Laird, John M., Jr., Florissant
Lakes, John D., St. Louis
Lally, James J., Kansas City
Lam, Robert L., St. Louis
Lamar, Robert F., Kansas City
Lamb, Wanda, St. Louis
Lambert, Marian, Kansas City
Lambie, Rodger W., Kansas City
Lamy, John E., Sedalia
Landau, Daniel B., Hannibal
Landau, William M., St. Louis
Landis, George K., Kansas City
Landor, John H., Columbia
Lane, Clinton W., St. Louis
Lane, Daniel K., St. Louis
Laney, Roland L., Carlsbad, Calif.
(Member Jasper County Medical Society)
Lang, John J., St. Louis
Langan, William J., Jr., St. Louis
Lange, Adolph C., St. Louis
Langhus, Melvin O., N. Kansas City
Langston, Walter R., Springfield
Lanier, Earl W., St. Louis
Lankford, Harold D., Mexico
Lanning, Richard C., Ste. Genevieve
Lanning, Richard J., Kansas City
Lanning, Robert J., Hannibal
Lansche, Elmer A., St. Louis
Lansche, W. Edward, St. Louis
Lapi, Angelo, Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Lapp, Harry C., Kansas City
Larimore, Joseph W., St. Louis
Larkin, Rosemary R., St. Louis
Larsen, Kenneth V., St. Louis
Larson, Paul U., St. Louis
Lassar, Gilbert N., St. Louis
Latham, Kenyon S., California
Latham, Raymond W., Kansas City
Latimer, Walter N. A., Hannibal
Lattinville, Henry E., St. Louis
Lau, Luis, St. Louis
Lauber, Joseph J., St. Louis
Lauer, Daniel J., Kansas City
Lauer, John D., St. Louis
Laurenzana, Frank P., Kansas City
Laux, France A., St. Louis
Lawrence, George H., St. Louis
Lawrence, John R., Marshall
Lawton, John T., St. Louis
Lawton, Lawrence M., St. Louis
Layton, Ira C., Kansas City
Leahy, John G., St. Louis
LeBlanc, Leo J., St. Louis
L'Ecuyer, Jerome L., St. Louis
Lederer, Charles M., Warrensburg
Lederman, Joseph, St. Louis
Lee, Carleton H., St. Joseph
Lee, George C., Kansas City
Lee, Henry A., Kansas City
Leech, Charles A., Columbia
Leech, Maurice P., Fayette
Leeper, Sidlee W., Columbia
Legner, Stanley G., Perryville
Lehman, Philip C., St. Joseph
Lehner, Richard L., Kansas City
Leidinger, Karl J., Republic
Leipfer, William W., Kansas City
Leightner, William, St. Louis
Leitch, Cecil G., Blue Springs
Leitch, David A., Kansas City
Leitz, Frank B., Kansas City
Lembeck, Joseph A., St. Louis
Lemmon, George B., Springfield
Lemmon, G. Bruce, Jr., Springfield
Lenobel, Milton I., Clayton
Lentz, Clark H., Kansas City
Lentz, Harold C., Neosho
Leo, William A., Kansas City
Leonhardt, Erwin M., St. Louis
Leroux, Gene H., Doniphan
Lerwick, Everett R., St. Louis
Leslie, Charles H., Kirkwood
Leslie, James F., Springfield
Leslie, J. Paul, Jefferson City
Leslie, James T., Louisville, Ky.
(Member Cole County Medical Society)
Leslie, James T., Jr., Jefferson City
Levey, Harry B., Kansas City
Levey, Simon A., Overland
Levin, Marvin E., St. Louis
Levin, Sidney S., St. Louis
Levitt, Joseph, St. Louis
Levy, Irwin, St. Louis
Levy, Jerome F., St. Louis
Lewellen, Charles H., Louisiana
Lewin, Wilbur H., St. Louis
Lewis, Charles R., St. Louis
Lewis, James E., Jr., St. Louis
Lewis, Noel R., Springfield
Lewis, Ray B., Columbia
Lewis, Revis C., Kansas City
Leydig, Stanley M., St. Louis
Liang, Howard S., St. Louis
Lichtor, Alexander, Kansas City
Lichtor, Joseph M., Kansas City
Lichty, Charles A., Shelbina
Lieb, Francis X., St. Louis
Lieb, Otto, St. Louis
Lieberman, B. Albert, Jr., Kansas City
Lieberman, David M., St. Louis
Liebmann, Fritz M., St. Louis
Liese, Grover B., St. Louis
Lilly, Douglas R., St. Louis
Lilly, Terry E., Kansas City
Lilly, Terry E., Jr., Kansas City
Lindeman, Carl H., St. Louis
Lindquist, Carl N., Kansas City
Lindquist, Paul A., Liberty
Link, Alexander J., St. Louis
Link, Vance E., Independence
Linsenmeyer, Charles M., St. Charles
Linville, Howard E., Kansas City
Lipschitz, Ervin, St. Louis
Lipsitz, Ellis S., St. Louis
Lischer, Carl E., St. Louis
Lissner, Arthur B., St. Louis
Liston, Odus, Oakgrove
Little, Monroe H., St. Louis
Littmann, Lewis E., St. Louis
Litton, Lyle D., Springfield
Litwiller, R. W., Columbia
Litzow, Louis T., St. Louis
Lloyd, Ivan E., Independence
Lockhart, Charles E., Springfield
Lodwick, Gwilym S., Columbia
Loeb, Virgil, Jr., St. Louis
Loeffel, Ellen S., St. Louis
Logan, James A., Warsaw
Logue, John T., Columbia
Lohmar, Roland E., Columbia
Lohr, Curtis H., St. Louis
Lohr, Robert W., St. Louis
Lohrentz, Louis H., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Loitman, Bernard, St. Louis
Londe, Alan M., St. Louis
Londe, Sol, St. Louis
London, Stanley L., St. Louis
Lonergan, Warren M., St. Louis
Long, Curtis W., Butler
Long, David S., Harrisonville
Long, Frank B., St. Louis
Long, R. Stacy, Kansas City
Longenecker, Joe L., Joplin
Longo, D. V., Lebanon
Lonsway, Maurice J., St. Louis
Lonsway, Maurice J., Jr., St. Louis
LoPiccolo, Vincent J., St. Louis
LoPiccolo, Vincent J., Jr., St. Louis
Lord, Richard E., St. Louis
Lorenc, Ernest, Springfield
Lottes, James O., St. Louis
Loughead, John R., Poplar Bluff
Loutzenhiser, James K., Kansas City
Love, Walter S., Nevada
Loving, B. Rush, Ballwin
Lovinggood, Thomas A., Cape Girardeau
Lowe, Alvin L., Sedalia
Lowe, Horace A., Jr., Springfield
Lowell, Paul, Kansas City
Lowenstein, Paul S., St. Louis
Lowney, John F., Columbia
Lowrey, Ford J., Kansas City
Loyd, Earl L., Jefferson City
Lubowitz, Herbert, St. Louis
Lucas, Fred V., Columbia
Lucas, G. Elden, St. Louis
Lucido, Joseph L., St. Louis
Lucke, Eugene M., Hannibal
Luckenbill, Paul T., Plattsburg
Luedde, Fullerton W., St. Louis
Luedde, Philip S., St. Louis
Luehrs, Robert O., St. Louis
Lugo, Samuel, St. Louis
Luh, Andrew, St. Louis
Lund, Herluf G., St. Louis
Lund, Robert H., Clayton
Lurie, Harold H., Springfield
Lusk, Charles A., Jr., Butler
Luten, Drew W., St. Louis
Luter, Carter W., Butler
Luther, George A., St. Louis

Lutkewitte, Joseph F., Ste. Genevieve
Lutz, Martin H., St. Louis
Lyddon, Harold R., Jr., Kansas City
Lyle, Robert R., Versailles
Lyman, Edward H., St. Louis
Lynxwiler, Chester P., St. Louis
Lyss, Carl, St. Louis
Lytle, William R., Rolla
Lyttle, Garnet C., St. Louis
Lytton, George J., Kansas City
Lytton, William B., St. Louis

Mc

McAdam, Charles R., St. Louis
McAfee, C. Alan, St. Louis
McAlhany, Howard J., Springfield
McAlister, William H., St. Louis
McArtor, Thomas R., Browning
McBurney, Charles A., Slater
McCall, Edwin L., St. Louis
McCalla, John P., Kansas City
McCallum, Andrew J. C., Aurora
McCann, John F., St. Louis
McCann, Louis P., Nevada
McCanse, Andrew, Kansas City
McCarroll, Henry R., St. Louis
McCarthy, John M., St. Louis
McCarthy, Thomas D., Ferguson
McCarthy, William F., Blue Springs
McCaughan, John M., St. Louis
McClanahan, Robert C., Kansas City
McCloskey, R. Bruce, Webster Groves
McClure, David N., Clayton
McClure, James N., Jr., St. Louis
McClure, Thomas C., Fort Lauderdale, Fla. (Member Semo County Medical Society)
McCool, James F., Jr., St. Louis
McCool, Stanley G., St. Louis
McConchie, James E., Independence
McCorkle, E. Lee, Marshall
McCormick, James E., Kansas City
McCoy, Donald L., Marshall
McCoy, Frederick J., Kansas City
McCoy, Warren R., Caruthersville
McCracken, Samuel R., Excelsior Springs
McCraw, Doyle C., Bolivar
McCubbin, Clarence R., Leawood, Kan. (Member Jackson County Medical Society)
McCullough, Campbell C., Kansas City
McCuniff, William B., Kansas City
McDaniel, John R., St. Joseph
McDermott, Alfred E., Perryville
McDonald, Eugene F., Jackson
McDonald, George H., St. Louis
McDonald, Victor G., Jr., Kansas City
McDonald, Wilbur P., St. Joseph
McDonnell, John F., Kansas City
McDonough, John, St. Louis
McDowell, Frank, St. Louis
McEachen, William H., Kansas City
McElroy, Glenn L., Columbia
McFadden, Gene A., Waverly
McFadden, James F., St. Louis
McFadden, James F., Jr., St. Louis
McFarland, H. Richard, Kansas City
McFarland, Morris D., Kansas City
McGannon, Paul T., Kansas City
McGinnis, Byron J., St. Louis
McGinnis, William F., St. Louis
McGinty, Charles P., Cape Girardeau
McGuire, Thomas H., Kansas City
McHaney, John W., Jefferson City
McIntyre, John D., Kansas City
McKaskle, Clarence W., Caruthersville
McKee, Joseph W., Kansas City
McKee, Oliver A., Kirkwood
McKee, Wallace P., Kansas City
McKenna, David H., Madison, Wisc. (Member St. Louis Medical Society)
McKinney, Joseph K., St. Louis
McKinsey, John J., Springfield
McKinstry, Karl V., DeSoto
McKnelly, William V., Jefferson City
McKnelly, William V., Jr., Kansas City
McLain, Bobby M., Poplar Bluff
McLane, Jerry F., Poplar Bluff
McLean, Harry A., St. Louis
McLean, Royal C., St. Louis
McLelland, Richard I., Seattle, Wash. (Member St. Louis Medical Society)
McLeod, John, Kansas City
McMahon, Alphonse, St. Louis
McMahon, Bernard J., Clayton
McManamon, Thomas V., Hazelwood
McMillan, Thomas E., Kansas City
McMurray, Herbert C., Manchester
McNalley, Frank P., Clayton
McNalley, Michael, St. Louis
McNamara, John J., Richmond Heights
McNeel, Lee A., Jr., Greenfield
McNew, William T., Carthage
McNutt, Theodore L., Kansas City
McPhee, William R., Kansas City
McPheeters, James W., Poplar Bluff
McPike, Lloyd H., Joplin
McSwiney, John G., St. Louis
McVay, James R., Kansas City
McVay, James R., Jr., Kansas City
McWherter, Lottie B., Kansas City

M

Mabrey, John P., Plattsburg
Macauley, Bernard J., Poplar Bluff
MacBryde, Cyril M., St. Louis
Maccubbin, Don A., Kansas City
MacDonald, Robert R., Jr., St. Louis
Macdonald, William C., St. Louis
Macdonnell, Carey R., Marshfield
Macdonnell, Thomas M., Marshfield
Machek, Otakar, St. Louis
MacInnis, Florence E., Kansas City
Mack, Mary L., address unknown
Mackenzie, James W., Columbia
Maclean, J. Alexander, Baldwin City, Kan. (Member Jackson County Medical Society)
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Macnish, James M., St. Louis
Macon, William L., Jr., St. Louis
Maddox, Albert R., Sedalia
Maddox, John D., Joplin
Maddux, William P., Springfield
Madison, Waite H., Kansas City
Magaletta, George E., Cape Girardeau
Magee, Charles D., St. Louis
Magee, Robert L., El Dorado Springs
Magee, William E., St. Louis
Magidson, Joseph, St. Louis
Magill, Joseph S., Milan
Maginn, R. Reilly, St. Louis
Maginn, Richard L., St. Joseph
Magness, Guy N., University City
Magness, William C., Branson
Mahe, George A., St. Louis
Maher, Robert W., Springfield
Maher, Thomas F., St. Louis
Mairs, Edgar J., Trenton
Maizus, Saul H., St. Louis
Malles, A. Conrad, St. Louis
Mandler, George, Chillicothe
Manganaro, Frank J., St. Louis
Mangels, Kenneth A., Independence
Mangelsdorf, Thomas K., St. Louis
Manion, Peter J., St. Louis
Manley, Charles B., Jr., St. Louis
Mann, James K., Hannibal
Mannis, Ben G., St. Louis
Mansur, Edward E., Stuart, Fla. (Member Cole County Medical Society)
Mantell, Harriet B., Kansas City
Maple, Francis M., Springfield
Marchick, Richard, St. Louis
Marco, Philip J., Columbia
Marcus, Morris D., St. Louis
Margolis, Richard M., St. Louis
Marienfeld, Carl J., Columbia
Markel, Arthur D., Poplar Bluff
Marks, Mark M., Kansas City
Marmor, William A., St. Louis
Mars, Hartley F., Forsyth
Marsh, Alice, Pleasant Hill
Marsh, Wallace S., Seattle, Wash. (Member Clay County Medical Society)
Marshall, Alfred H., Charleston
Marshall, Cameron F., Kansas City
Marshall, William G., Glasgow
Marston, F. James, Jr., St. Joseph
Martel, Dominique, St. Louis
Marten, Sue, Viburnum
Martin, Andrew D., Sikeston
Martin, Clyde V., Kansas City
Martin, Daniel C., Kansas City
Martin, Daniel J., Fort Benning, Ga. (Member St. Louis Medical Society)
Martin, Forrest L., Nevada
Martin, Frederick W., Jr., St. Louis
Martin, J. Barlow, St. Louis
Martin, James M., Kirkwood
Martin, John N., St. Joseph
Martin, Maynard W., Houston, Tex. (Member St. Louis Medical Society)
Martin, Wilfred E., Odessa
Martin, W. Joe, Louisiana
Marty, Loraine A., Pierce City
Martt, Jack M., Columbia
Martz, John C., Webster Groves
Masor, Nathan A., Butler
Massie, Edward, St. Louis
Masters, William H., St. Louis
Masterson, Byron J., Kansas City
Masucci, Joseph M., Kansas City
Mathewson, Hugh S., Kansas City
Matovich, Violet B., Columbia
Matteson, Frank B., Grant City
Matthews, John G., St. Louis
Matthews, John I., Jefferson City
Mattis, Robert D., Clayton
Maughs, Sidney B., St. Louis
Max, Paul F., St. Louis
Maxey, Hugh W., Jefferson City
Maxson, T. Reed, Warrensburg
Maxwell, Richard W., St. Louis
May, Albert L., Jr., Poplar Bluff
May, Benjamin F., St. Louis
May, James W., Kansas City
Mayer, John H., Jr., Kansas City
Mayer, Robert A., St. Louis
Mayer, William D., Rockville, Md. (Member Boone County Medical Society)
Mayfield, James L., Crystal City
Mays, Frank G., Washington
Maze, Lawrence E., St. Louis
Mead, Samuel T., Slater
Meador, James R., Clayton
Meagher, Arthur J., St. Louis
Medler, Francis J., St. Louis
Medlicott, William J., Kansas City
Mehan, Donald J., St. Louis
Meier, Francis X., Jefferson City
Meinberg, William H., St. Louis
Meiners, Paul N., St. Louis
Meiners, Theodore M., St. Louis
Meinershagen, Charles W., Jefferson City
Meirink, Thomas P., St. Louis
Melburn, Colleen M., Columbia
Melgaard, S. Ross, Kansas City
Melia, Bernard J., Jr., Jefferson City
Melick, William F., St. Louis
Menchetti, Don E., Springfield
Mendelsohn, Robert S., St. Louis
Mandelson, David F., St. Louis
Mendonsa, Lawrence E., St. Louis
Menendez, Manuel F., St. Louis
Menne, Marvin G., Ironton
Mercado, Raul, Jr., Columbia
Merenda, Sam J., St. Louis
Meriwether, Don R., Kansas City
Merklin, Anton L., St. Louis
Merrims, Theodore, St. Louis
Merritt, Burch A., St. Louis
Merz, Jean J., St. Louis
Mestres, Hugh M., St. Louis
Metz, Charles O., St. Louis
Metzgar, Marshall T., Columbia
Metyl, Kurt, Kansas City
Meyer, Claude B., Nixa
Meyer, Curtis A., St. Louis
Meyer, Herman M., St. Louis
Meyer, James E., Manchester
Meyer, Jay, St. Louis
Meyer, John S., St. Louis
Meyer, Paul W., Kansas City
Meyerhardt, Milton H., St. Louis
Meyers, Harold L., Mission, Kan. (Member Jackson County Medical Society)
Meyers, John B., St. Louis
Mezera, Raymond A., St. Louis
Michael, Kenneth D., St. Louis
Michael, Vernon E., St. Louis
Michaelis, Charles E., Fredericktown
Michaelree, John F., St. Louis
Middleman, Isadore C., St. Louis
Middleton, John W., Louisiana
Mier, Thomas M., St. Louis
Mikhail, Girgis, St. Louis
Milder, Benjamin, St. Louis
Miles, George O., Kansas City
Miles, Paul W., St. Louis
Miller, Charles, Jr., Kirkwood
Miller, Charles W., St. Louis
Miller, Clinton L., Lee's Summit
Miller, Clyde S., Waynesville
Miller, D. Herbert, Muskogee, Okla. (Member Chariton-Macon-Monroe-Randolph County Medical Society)
Miller, David V., Poplar Bluff
Miller, Geoffrey W., St. Louis
Miller, Gerald L., Kansas City
Miller, Harold W., Willow Springs
Miller, Howard S., Macon
Miller, Jule P., Jr., St. Louis
Miller, Leroy J., Columbia

Miller, Max I., Prairie Village, Kan. (Member Jackson County Medical Society)
Miller, Norman C., St. Louis
Miller, Oliver J., Cape Girardeau
Miller, Wilson H., Kansas City
Millikin, Lester A., St. Louis
Milster, Clyde R., St. Louis
Miltenberger, Paul C., Kennett
Minnihan, Robert W., Affton
Minton, Robert S., St. Joseph
Mishkin, Marvin R., St. Louis
Miskovsky, Emil F., St. Louis
Missey, Wilburn C., Jr., St. Louis
Mitchell, Andrew D., Kansas City
Mitchell, Franklin L., Columbia
Mitchell, Robert H., Kansas City
Mitchell, Roy E., Salem
Mitchell, Thomas J., St. Clair
Mitra, Nirmal K., Kansas City
Mixson, William C., Kansas City
Modlin, John J., Columbia
Moe, William W., Kansas City
Moellenhoff, Robert W., Washington
Moen, Berwyn H., St. Joseph
Molden, Charles A., St. Louis
Monafo, William W., Jr., St. Louis
Monat, Seymour, St. Louis
Montani, Charles, St. Louis
Montello, Samuel A., Kansas City
Montes-de-Oca, Julio, St. Louis
Montgomery, Austin F., Brentwood
Montgomery, James G., Kansas City
Moody, Jackson C., Harrisonville
Mooney, Justin L., Kansas City
Mooney, Marcel L., Kansas City
Moore, Allen H., Jr., Branson
Moore, Alva, St. Louis
Moore, Carl V., St. Louis
Moore, Dan B., St. Louis
Moore, Harry G., St. Louis
Moore, Harry G., Jr., St. Louis
Moore, John L., St. Louis
Moore, Robert A., Kansas City
Moore, Walter L., St. Louis
Moore, William E., Normandy
Morano, Armando H., Kansas City
Moranville, Benedict A., Columbia
Morehead, William E., Malden
Morest, F. Stanley, Pompano Beach, Fla. (Member Jackson County Medical Society)
Morgan, David B., Kansas City
Morgan, Harry C., St. Louis
Morgan, Troy O., Jr., Albany
Morgan, W. Thomas, Jr., West Plains
Morris, Harvey E., St. Louis
Morris, Joseph H., Jr., Independence
Morris, Mary E., St. Louis
Morris, William R., Oklahoma City, Okla. (Member Jackson County Medical Society)
Morrison, Arlen, Clayton
Morrison, Donald H., Kansas City
Morrison, George B., Nevada
Morrison, T. A., Aurora
Morse, Marvin, St. Joseph
Mortensen, Frede, St. Louis
Morton, Paul C., Springfield
Moseley, F. Thomas, Springfield
Moses, Robert A., St. Louis
Moss, Paul, Kansas City
Mosser, Robert S., Independence
Mothershead, John L., St. Joseph
Motzel, Albert J., St. Louis
Mount, Allan, Independence
Mountjoy, Grace S., St. Louis
Mowrer, Marie O., St. Louis
Mowrey, William O., Jennings
Moyer, Carl A., St. Louis
Muckerman, Richard I. C., St. Louis
Mueller, Clarence E., St. Louis
Mueller, John J., Chesterfield
Mueller, Joseph A., St. Louis
Mueller, Martin J., Kansas City
Mueller, Morris A., St. Louis
Mueller, Robert, St. Louis
Mueller, Robert J., St. Louis
Mueller, Wilbur K., St. Louis
Muench, Albert H., St. Joseph
Muench, Ludwig O., Washington
Muenster, Vincent P., St. Charles
Muether, Raymond O., St. Louis
Mullarky, Wilbur A., Chesterfield
Mullen, Jack, Bonne Terre
Mullen, Leo M., Kansas City
Mulligan, Leo V., St. Louis
Mullinax, Orr, Nevada
Mullins, Bernard L., N. Kansas City
Mullins, John E., St. Louis
Multhauf, Cyril J., Mission, Kan. (Member Jackson County Medical Society)
Mundy, Homer F., St. Joseph
Mundy, William L., Kansas City
Munsch, Girard A., St. Louis
Murney, Joseph A., Washington
Murphy, Bernard L., Hannibal
Murphy, George E., St. Louis
Murphy, James J., Kansas City
Murphy, James P., St. Louis
Murphy, John C., St. Louis
Murphy, Paul, St. Louis
Murphy, Robert J., Kansas City
Muschany, Norman K., St. Louis
Musgrave, David E., Excelsior Springs
Muth, Robert G., Kansas City
Mutshnick, Clara P., St. Louis
Myers, James M., Rolla
Myers, John S., Kansas City
Myers, Robert M., Kansas City
Myers, Wilson A., Kansas City

N

Naime, Mansour J., Kansas City
Nakada, James R., St. Louis
Napper, Marvin L., Springfield
Naryka, Joseph J., St. Louis
Nash, Francis P., St. Louis
Nash, Helen E., St. Louis
Nash, W. Hampton, St. Louis
Nathan, Lester J., St. Louis
Neal, M. Pinson, Columbia
Needels, Orval T., Kansas City
Neilson, Arthur W., St. Louis
Nelson, Bentley A., Kansas City
Nelson, J. Roger, Kirkwood
Nelson, James S., Brentwood
Nemec, Stanley S., St. Louis
Ness, Carl K., St. Joseph
Nesselrode, John H., Independence
Nester, Charles A., St. Louis
Neu, Leo T., Jr., Springfield
Neubeiser, Ben L., St. Charles
Neun, William F., St. Louis
Newman, Mary Jane, Cassville
Newman, Percy, St. Louis
Newman, Robert L., Kansas City
Newport, Gerald, St. Louis
Newton, Gordon, St. Louis
Newton, William T., St. Louis
Nickel, James F., St. Louis
Nickson, Charles E., Jr., Independence
Nicolai, Charles H., St. Louis
Nicolay, Kenneth S., Kansas City
Niedermeyer, Edward L., Tarkio
Niedermeyer, George J., St. Louis
Niesen, Frank J., St. Louis
Nigh, Charles A., St. Louis
Nigro, Dominic M., Kansas City
Nigro, E. Robert, Kansas City
Nigro, Joseph A., Kansas City
Nishi, Toshio, St. Louis
Nixon, Edward E., Gallatin
Noah, Joseph W., St. Louis
Noback, Richardson K., Kansas City
Nofles, James W., St. Louis
Nolan, Charles J., St. Louis
Noller, Henry W., Overland
Noltensmeyer, Milton N., Shawnee Mission, Kan. (Member Jackson County Medical Society)
Nomura, Roy M. Y., St. Louis
Norton, William H., St. Louis
Nouhan, Joseph G., Jr., St. Louis
Nouri, Hassan, St. Louis
Nuetzel, John A., St. Louis
Nunn, Pat Morris, Kansas City, Kan. (Member Jackson County Medical Society)
Nunnelly, Gordon M., Cape Girardeau
Nussbaum, Paul B., Cape Girardeau
Nussbaum, Paul S., Cape Girardeau
Nussbaum, Robert A., St. Louis
Nye, Robert S., St. Louis

O

Oakley, Margaret M., St. Louis
O'Bannon, Lon W., Jr., Florissant
Obermeyer, Charles G., St. Louis
O'Brien, Edward C., St. Louis
O'Brien, Harry F., Mexico
O'Brien, James A., Muskogee, Okla. (Member Jasper County Medical Society)
O'Brien, Robert M., St. Louis
O'Connor, Robert J., Florissant
O'Connor, William B., St. Joseph
O'Dell, Timothy T., Oran
O'Donnell, Joseph V., St. Louis
O'Dowd, James A., St. Louis
Oehler, William F., Cape Girardeau
Oetter, Donald L., St. Louis
Ogilvie, John H., Gravois Mills
Oglesby, Richard B., St. Louis
Ogura, Joseph H., Ladue
O'Hearne, John J., Kansas City
Ohmoto, Masao, St. Louis
O'Keefe, Joseph D., St. Louis
Okum, Edward, St. Louis
O'Leary, James L., St. Louis
Olin, Robert H., St. Charles
Olive, George C. Neosho
Oliver, George A., Farmington
Olmsted, William H., St. Louis
O'Malley, Eugene J., St. Louis
O'Malley, James F., Kansas City
O'Neal, Lawrence W., St. Louis
O'Neal, Patricia, St. Louis
O'Neil, James H., Kansas City
O'Neill, John B., St. Louis
Ongjoco, Melchor I., St. Louis
Onken, Henry D., St. Louis
Oppenheimer, Henry E., Clayton
O'Reilly, D. Elliott, St. Louis
Orenstein, Joseph M., St. Louis
Orgel, M. Norman, St. Louis
Ortmeyer, Leroy F., St. Louis
Osborn, Donald O., St. Louis
Osborn, Retus W., III, Farmington
Osborne, Charles D., Sedalia
Osbourn, Richard A., Fulton
Ossman, Julian A., Jefferson City
Ost, Mark D., Kansas City
O'Sullivan, Daniel F., St. Louis
O'Sullivan, George A., St. Louis
Ott, Harold J., St. Louis
Ott, Harold J., Maplewood
Ottensmeyer, Charles D., Overland
Otto, Thomas G., Cape Girardeau
Overend, Donald S., Springfield
Overesch, Harry B., Kansas City
Overholser, Milton D., Columbia
Owen, Robert F., St. Louis
Owens, Graham J., Kansas City
Owens, Hugh H., Kansas City
Owens, Richard L., Kansas City
Owens, Robert H., Kansas City
Owings, Raymond H., Sedalia
Owre, Alfred, Jr., Kansas City
Ozar, Milton B., Kansas City
Ozenberger, Larry A., Plattsburg

P

Packman, Robert C., St. Louis
Paddock, Charles S., Joplin
Padfield, Earl G., Jr., Kansas City
Page, Jesse W., Sikeston
Paine, Robert, St. Louis
Painter, Andrew E., Portageville
Painter, Lattie B., Jr., Portageville
Pakula, Sidney, Kansas City
Palazzo, Frank A., St. Louis
Palcheff, Chris L., Springfield
Palenske, Robert L., Hornersville
Palermo, Vincent G., Chesterfield
Paletta, Francis X., St. Louis
Pallett, Harold A., Kansas City
Papp, Sandor D., Joplin
Pasashak, Paul M., St. Louis
Parato, John M., St. Louis
Pareira, Morton D., St. Louis
Paris, William H., Florissant
Park, George M., Chesterfield
Park, William I., Jr., Springfield
Parker, Arthur C., Jr., Poplar Bluff
Parker, Brent M., St. Louis
Parker, Elmer L., Kansas City
Parker, H. Graham, Platte City
Parker, Hubert M., Kansas City
Parker, Robert H., N. Kansas City
Parker, Thomas W., University City
Parker, William, St. Louis
Parelman, Allen G., Kansas City
Parks, Stephen, Sikeston
Parrish, Henry M., Columbia
Parsons, Bernie, Albany
Parsons, D. LeRoy, Cape Girardeau
Parsons, Eugene O., Kansas City
Parsons, Richard P., St. Louis
Pascoe, James J., Nevada
Passanante, Bartholomew M., St. Louis
Passman, Harold, Kansas City
Pate, Otho S., N. Kansas City
Patient, William F., St. Louis
Patrick, Roman L., Jr., St. Louis
Patterson, Donald R., Joplin

Patterson, Groves S., Carthage
Patton, William G., San Marino, Calif.
(Member Mineral Area County Medical Society)
Pawol, S. E., St. Louis
Payne, John H., Fort Knox, Ky.
(Member St. Louis Medical Society)
Payne, John W., Columbia
Payne, Meredith J., St. Louis
Pearl, John F., Boca Raton, Fla.
(Member Franklin-Gasconade-Warren County Medical Society)
Pearman, Carl C., Columbia
Pearse, Roy W., Jr., Nevada
Pearson, Paul E., Kansas City
Peck, Chester R., Jr., Kennett
Peden, Burnet W., Clayton
Peden, James C., Jr., St. Louis
Peden, Joseph C., St. Louis
Peden, Joseph C., Jr., St. Louis
Peebles, J. B., Jr., Kirkwood
Peeler, James O., St. Louis
Peete, Don C., Kansas City
Pelz, Mort D., Miami, Fla.
(Member St. Louis Medical Society)
Pemberton, Charles W., Arlington, Va.
(Member Grand River Medical Society)
Pence, F. Wendell, Carthage
Penick, Roland W., St. Louis
Penner, Stanley, Kansas City
Penninger, William H., Springfield
Pennington, Francis E., St. Louis
Pennoyer, James, Webster Groves
Pentecost, Richard L., Kansas City
Perkins, David E., St. Louis
Perll, Maurice F., Kansas City
Perll, Rita D., Kansas City
Perna, Vincent P., Columbia
Pernoud, Flavius G., Jr., St. Louis
Pernoud, Michael F., St. Louis
Perry, David C., Mound City
Perry, H. Mitchell, Town & Country
Perry, Lawrence L., Jr., Kansas City
Perry, Ralph, Kansas City
Perry, William D., St. Louis
Petersen, Arthur G., Kansas City
Petersen, Gerald D., Kansas City
Petersen, Harold E., St. Joseph
Peterson, Carl M., Kansas City
Peterson, Donald B., Fulton
Peterson, Frederick D., St. Louis
Peterson, George L., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Peterson, Malcolm L., St. Louis
Peterson, Milton C., Kansas City
Peterson, Stanley S., Springfield
Peterson, Walter R., Kansas City
Petry, Ezra L., Kansas City
Pettit, Manson B., St. Joseph
Peugnet, Hubert B., St. Louis
Pfefer, Leland U., Columbia
Pfeffer, Robert I., St. Joseph
Pfeifer, Oliver C., St. Louis
Pfuetze, Edwin L., Kansas City
Phillips, Hanford, St. Louis
Phillips, John J., Brentwood
Philip, John R., Kansas City
Piccione, Leonard M., St. Louis
Pickard, Clarence M., Columbia
Pickard, Nicholas S., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Pickens, E. Allen, Nevada
Pickens, Edgar E., Kansas City
Pierron, John B., Kansas City
Pifer, Lawrence H., St. Joseph
Pileggi, Felix A., N. Kansas City
Pilla, Lawrence A., St. Louis
Pingelton, William B., Columbia
Pinsker, Oscar T., Kansas City
Piper, August T., St. Louis
Piper, Donald K., Kansas City
Pipes, Keith E., Brentwood
Pipkin, Garrett, Kansas City
Pitsinger, Nolan B., St. Louis
Pitts, Farris N., Jr., St. Louis
Platt, William R., Clayton
Platz, John H., Carrollton
Plesons, John D., St. Louis
Plowman, Edward M., Hannibal
Plumlee, John E., Columbia
Plumpe, W. Tupper, St. Louis
Podrecca, Guido I., Springfield
Poggmeier, William H., Jr., St. Charles
Polk, George M., Kansas City
Polk, John W., Springfield
Pollack, Maxwell A., St. Louis
Pollock, Leo H., Kansas City
Poor, Carl W., Neosho
Pope, Charles H., Jr., Independence
Popp, Carl G., Sikeston
Porporis, Arthur A., St. Louis
Porter, Louis, Kansas City
Porter, Russell C., Seal Beach Calif.
(Member Clay County Medical Society)
Portuondo, Bonaventura C., St. Louis
Poser, Charles M., Kansas City
Post, Cyril A., Poplar Bluff
Post, John P., Washington
Post, Lawrence T., Jr., St. Louis
Post, M. Hayward, Pleasant Valley, Conn.
(Member St. Louis Medical Society)
Post, Stephen L., St. Louis
Post, Winfred L., Joplin
Potashnick, Robert, St. Louis
Potter, Caryl A., Jr., St. Joseph
Potter, Lee G., Kansas City
Potter, Reese H., St. Louis
Potter, Thompson E., St. Joseph
Potts, Donald A., Independence
Powell, Charels B., Florissant
Powell, Earl A., St. Louis
Powell, Edwin M., Springfield
Powell, Nelson E., Kansas City
Powell, Robert G., Joplin
Powers, John M., Kansas City
Powers, Pierce W., St. Louis
Powers, William E., St. Louis
Pozsgay, Michael S., St. Joseph
Pranger, Sylvester H., St. Louis
Prater, Bill G., Springfield
Prentiss, Harry S., Kansas City
Presnell, Cleitus A., St. Louis
Press, Maurice J., St. Louis
Preston, Albert, Jr., Kansas City
Price, Charles H., Cassville
Price, Kenneth C., St. Louis
Printz, Joseph H., Kansas City
Printz, Otto J., Kansas City
Probst, Raymond E., St. Louis
Probstein, Jacob G., St. Louis
Proctor, Donald C., Sedalia
Pruett, Burchard S., St. Louis
Pruett, Don S., St. Louis
Pruett, Hubert S., St. Louis
Pruett, Paul L., Springfield
Pucci, Gregory L., Kansas City
Pugh, Richard G., Independence
Purcell, Harry K., St. Louis
Purcell, Paul L., Smithville
Purkerson, Mabel L., St. Louis
Pyne, Herbert S., St. Louis

Q

Quer, Erich A., Kansas City
Quevy, Richard G., St. Louis
Quick, Richard T., St. Louis
Quintana, Manuel M., Villa Park, Ill.
(Member Buchanan County Medical Society)
Quistgard, Paul C., Kansas City

R

Rachlin, Maxwell, Brentwood
Rader, Ada B., Kansas City
Rader, Edward S., St. Louis
Rader, George B., St. Louis
Raemdonck, Alphonse J., St. Louis
Ragland, John E., Ballwin
Ragsdale, George M., Paris
Raich, Robert A., Kansas City
Rainey, Robert, St. Louis
Rainwater, Elmer H., Springfield
Rall, Kenneth L., Redstone Arsenal, Ala.
(Member Boone County Medical Society)
Ramey, Ehret O., Kansas City
Ramos, John F., Jr., Kansas City
Ramsey, Robert H., Ferguson
Randall, Don Q., St. Charles
Rannie, Paul R., Independence
Rao, Carlo, St. Louis
Raper, Charles A., Poplar Bluff
Rapp, Earl L., Hannibal
Rapp, Harold B., Cape Girardeau
Rappold, H. O., St. Louis
Rawlins, Fred E., Cape Girardeau
Rawlins, Kelly, Holden
Ray, C. Thorpe, Columbia
Raybuck, Harry E., St. Louis
Raynor, Richard, Columbia
Ready, James H., Florissant
Reas, Herman W., Boston, Mass.
(Member St. Louis Medical Society)
Recant, Lillian, St. Louis
Rector, Joe L., Jr., Kansas City
Redington, James C., Jr., Clayton
Redmond, William, St. Joseph
Reed, Theresa Greene, St. Louis
Reeder, Charles C., New Madrid
Reese, A. Victor, St. Louis
Reh, Edward P., St. Louis
Rehm, Ralph, Bloomfield
Reich, Harry A., St. Louis
Reich, Oliver F., Imperial
Reichert, M. Cecelia, St. Louis
Reiches, Aaron J., St. Louis
Reid, James A., Marshall
Reider, Richard A., St. Louis
Reilly, Leo J., St. Louis
Reilly, Pierce J., St. Louis
Reineck, John A., St. Louis
Reinhard, Edward H., St. Louis
Reinhardt, George R., Kansas City
Reis, Carl J., St. Louis
Reister, Dorothy D., Kansas City
Reister, Philip D., Kansas City
Reitman, Stanley, St. Louis
Reitz, Carl H., Kansas City
Remley, George C., Kansas City
Rendleman, George F., St. Louis
Rendleman, George, Jr., St. Louis
Rennard, Marvin, St. Louis
Repetto, Albert M., St. Louis
Repp, Theodore J., St. Louis
Reuter, Louis A., St. Louis
Revare, Paul, Kansas City
Revels, Harry, III, St. Louis
Reynolds, Clarence C., Kansas City
Reynolds, Fred, St. Louis
Reynolds, Garland A., Cape Girardeau
Reynolds, Harry E., St. Louis
Reynolds, James R., Neosho
Rhoades, Arthur B., Kansas City
Rhodes, Euhlan L., Warsaw
Rice, Carl E., Hillsboro
Rice, Earl R., Fort Lauderdale, Fla.
(Member St. Louis Medical Society)
Richards, Frank O., St. Louis
Richardson, George A., Union
Richardson, Marion W., Kansas City
Richardson, William D., Ghona, W. Africa
(Member Clay County Medical Society)
Richardson, William R., Union
Richert, Robert C., Kansas City
Richman, Elmer, St. Louis
Richtarsic, Stephen R., St. Louis
Richter, William B., Stockton
Riddell, Richard V., St. Joseph
Ridings, G. R., Columbia
Ridings, Harold D., Cape Girardeau
Ries, Douglas A., St. Louis
Riffel, Gordon W., Bourbon
Rifkin, Shale M., St. Louis
Riggio, Salvatore N., St. Louis
Rigney, Levi M., Springfield
Riley, Charles T., Richmond
Riley, John J., St. Louis
Riley, Joseph P., Jr., Kansas City
Riley, William H., St. Louis
Riller, Lowell E., Kansas City
Rinck, Edward C., Nevada
Ring, Edward M., St. Louis
Ritchie, Frances R., St. Louis
Ritter, Hubert A., St. Louis
Ritter, Paul J., St. Louis
Ritter, Raymond A., Cape Girardeau
Ritterbusch, James K., Fulton
Rizzo, Adolfo E., St. Louis
Roark, Glenn E., Columbia
Roberts, Grosvenor G., Kansas City
Roberts, Harold K., Clayton
Roberts, Harold M., Kansas City
Roberts, John P., Kirkwood
Roberts, John R., St. Louis
Roberts, L. Marvin, Kansas City
Roberts, Paul A., Sweet Springs
Roberts, Phyllis Grant, St. Joseph
Roberts, Sam E., Kansas City
Robertson, Frank G., St. Louis
Robertson, Robert C., Fulton
Robertson, William D., Poplar Bluff
Robertson, William D., Kansas City
Robichaux, Eugene B., Excelsior Springs
Robins, Eli, St. Louis
Robinson, Arthur W., Kansas City
Robinson, Edith C., St. Louis
Robinson, E. Kip, Kansas City
Robinson, George G., Humansville
Robinson, G. Wilse, Jr., Kansas City
Robinson, John A., Edgerton
Robinson, Van M., Kansas City
Robinson, William J., Leawood, Kan.
(Member Jackson County Medical Society)
Robison, James T., Jr., Kansas City
Roblee, Melvin A., St. Louis

Roche, Maurice B., St. Louis
Rodeman, John M., Sedalia
Rodes, Ned D., Mexico
Rodgers, Elrie P., Columbia
Rodgers, George H., Overland Park, Kan.
(Member Jackson County Medical Society)
Rodgers, Samuel U., Kansas City
Rodriguez, Ubaldo R., St. Louis
Roehrs, Marvin E., Marshall
Rogers, Cyril H., St. Louis
Rogers, Donald B., Lincoln, Nebr.
(Member Ozarks Medical Society)
Rogers, John A., St. Louis
Rogers, John T., St. Joseph
Rogers, Robert L., Kansas City
Rohlfing, Edwin H., St. Louis
Rohlfing, Walter H., St. Louis
Roller, Merrill J., Hannibal
Rollins, Harry D., Winona
Rolufs, Lloyd S., Kirkwood
Rolwing, E. Charles, Charleston
Ronald, Douglas C., Butler
Roodman, Herman J., Overland
Roos, Albert, St. Louis
Roper, Charles L., St. Louis
Roper, Stanley D., Ozark
Rose, Charles W., Kansas City
Rose, Dalton K., St. Louis
Rosecan, Marvin, St. Louis
Rosen, Charles S., St. Louis
Rosen, Max, Springfield
Rosenbaum, Harry D., St. Louis
Rosenbaum, Herbert E., St. Louis
Rosenfeld, Henry, St. Louis
Rosenstein, Daniel L., St. Louis
Rosenthal, Irwin I., St. Joseph
Ross, Gilbert, Jr., Columbia
Rost, William B., St. Joseph
Roter, Alexander M., St. Charles
Roth, John J., St. Louis
Rother, Paul H., St. Charles
Rothman, David, St. Louis
Rothweiler, Robert J., St. Louis
Roufa, Joseph F., St. Louis
Roulhac, George E., St. Louis
Rouse, David M., Mexico
Rouse, Ernest T., St. Louis
Rowlette, Avery P., Moberly
Roy, Joseph A., Jennings
Royce, James J., Sarcoxie
Royce, Robert K., St. Louis
Royse, Roy P., Sullivan
Royston, Grandison D., Hope, Ark.
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Rubin, Robert, St. Louis
Rubin, Sidney, Kansas City
Rubnitz, Leon H., Kansas City
Rudi, Herbert J., St. Louis
Rufe, John R., Kansas City
Ruff, T. Eugene, Poplar Bluff
Ruhling, Rudy, St. Louis
Rusan, Thomas E., St. Louis
Rusk, Earl M., Camdenton
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Russell, Earl D., Springfield
Russell, Garth, Columbia
Russell, Herman E., Berkley
Russell, James L., Kansas City
Russell, Joseph P., Jefferson City
Russell, Robert K., Raytown
Rutledge, John F., Festus
Rutledge, William J., Campbell
Ryan, John B., Washington
Ryan, John H., St. Joseph
Ryan, John J., Clayton
Ryan, Robert E., St. Louis

S

St. John, Thomas C., St. Louis
Sabates, Felix N., Columbia
Sachar, Leo A., St. Louis
Saferstein, Lester, Kansas City
Sala, Jose M., Springfield
Saladino, Anthony, Kansas City
Sale, Llewellyn, Jr., St. Louis
Salisbury, William J., St. Louis
Salmon, Mickey L., St. Louis
Sammons, Harry C., St. Louis
Samuelson, Edward A., Kansas City
Sanders, Donald C., Kansas City
Sanders, George E., Excelsior Springs
Sanders. Harmon U., Jr., Lawrence, Kan.
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Sanders, Robert D., St. Louis
Sanders, Theodore E., St. Louis
Sanders, William F., Kansas City
Santanello, William M., St. Louis
Santiago, Miguel, St. Louis
Santoro, Carlos G., Kansas City
Saper, Philip, Lee's Summit
Sargent, Alden P., Sikeston
Sargent, John P., Sikeston
Sarno, Samuel M., Morehouse
Sasano, Joseph R., Jr., Kansas City
Sato, George, St. Louis
Satterfield, Val B., Chesterfield
Sauer, Gordon C., Kansas City
Sauer, Donald C., St. Louis
Sauer, W. Nicholas, St. Louis
Saunders, Everett L., Independence
Sawyer, Floyd E., Kansas City
Sawyer, James, St. Louis
Scales, Margaret B., Kansas City
Scanlon, Robert C., Springfield
Scarpellino, Louis, Kansas City
Schaan, Robert C., St. Louis
Schaef, Mary L., St. Louis
Schaefer, George J., St. Louis
Schaefer, Glennon S., Jr., St. Louis
Schaeffer, Edward M., Springfield
Schaerer, Jacques P., St. Louis
Schaerrer, William C., Kansas City
Schaper, Ernest H., St. Louis
Schattyn, Martyn, St. Louis
Schechter, Samuel E., St. Louis
Scheele, Paul M., St. Louis
Scheer, George E., St. Louis
Scheff, Harold, St. Louis
Scherman, Victor E., St. Louis
Schertz, Truman B., N. Kansas City
Scheuber, Charles, Columbia
Schewe, Elmer J., Jr., Columbia
Schierman, William D., Clayton
Schiffmacher, Jack E., Kansas City
Schillie, Gene A., Kansas City
Schlansky, Seymour M., St. Louis
Schlenker, Lawrence, St. Louis
Schluer, Elmer P., St. Louis
Schmidt, Charles A., Gerald
Schmidt, Charles R., Columbia
Schmidt, Edwin H., St. Louis
Schmidt, Edmund M., St. Louis
Schmidt, Herbert J., Joplin
Schmidt, J. H., Jefferson City
Schmiemeier, Roy H., St. Louis
Schmitz, Edgar F., St. Louis
Schneider, Sam, St. Louis
Schneider, Thomas A., St. Charles
Schoeberl, Cletus B., Joplin
Schoeck, Albert F., St. Louis
Schoentag, John S., St. Louis
Schopp, Alvin C., St. Louis
Schottman, Gerhard W., Jr., Kansas City
Schranck, Charles R., St. Louis
Schroeder, Henry A., W. Brattleboro Vt.
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Schuessler, Wolfgang P., St. Louis
Schuetz, Alfred, Fulton
Schulte, Gregory A., Joplin
Schultz, E. Robert, St. Louis
Schultz, Loraine E., Branson
Schultz, Samuel, St. Louis
Schutz, Carl B., San Marcos, Calif.
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Schwartz, Eugene J., Springfield
Schwartz, Frederick O., St. Louis
Schwartz, Henry G., St. Louis
Schwartz, John T., Columbia
Schwartz, Melvin M., St. Louis
Schwartzman, Bernard, St. Louis
Schweiss, John F., St. Louis
Schweitzer, Fred C., Jr., Springfield
Sciortino, Gaspare, St. Louis
Sciortino, John S., St. Louis
Scokel, Paul W., III, St. Charles
Scopelite, Joseph A., St. Louis
Scorse, Sidney W., Joplin
Scott, E. David, Jefferson City
Scott, Elwin P., St. Louis
Scott, Horace W., St. Louis
Scott, Wendell G., St. Louis
Seabaugh, Dayton I. L., Jackson
Seabaugh, Loy R., Cape Girardeau
Seabaugh, Oda L., Cape Girardeau
Seabaugh, Ottis D., Webster Groves
Seabaugh, William O. L., Cape Girardeau
Seabold, John A., University City
Seddon, John W., St. Louis
See, William B., Columbia
Seeley, James J., St. Louis
Seely, Clark W., Kansas City
Seevers, Ruth, Osceola
Seib, George A., St. Louis
Seidel, Donald R., Wright-Patterson AFB, Ohio
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Senhauser, Donald A., Columbia
Senn, Emmett J., Herculaneum
Senne, Herbert C., St. Joseph
Sennott, John S., Jefferson City
Senor, Samuel E., St. Joseph
Senturia, Ben H., St. Louis
Senturia, Hyman R., St. Louis
Serkes, Kenneth D., St. Louis
Sertl, John D., St. Louis
Sevastianos, Aristides E., St. Louis
Sevin, Omar R., Rockhall, Md.
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Sewell, Walter S., Springfield
Sexton, Daniel L., St. Louis
Sexton, Elmer E., St. Louis
Shackelford, Horace H., St. Louis
Shah, Anwar, St. Louis
Shahan, Philip T., St. Louis
Shanahan, Mary Patricia, Joplin
Shaner, John F., St. Louis
Shank, Robert E., St. Louis
Shapiro, Herbert N., Houston, Tex.
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Shapiro, Lazare M., Kansas City
Shapleigh, John B., St. Louis
Sharp, Austin R., St. Louis
Shatz, Burton A., St. Louis
Shaw, Carvel T., Hermann
Shaw, Edward J., St. Louis
Shaw, William J., Fayette
Shaw, William J., Jr., Fayette
Shea, James G., Gerald
Sheahon, John A., Kansas City
Shecter, Nathan, Kansas City
Sheets, John S., St. Louis
Sheets, Martin E., Chesterfield
Shelden, Russell D., Kansas City
Sheldon, John, Kansas City
Shelton, Earl W., St. Louis
Shelton, Edward O., Eldon
Shen, Jerome T. Y., St. Louis
Sheppard, Lee C., Jr., Columbia
Sherard, Julius C., St. Louis
Sheridan, Edmund R., St. Louis
Sherman, Alfred I., St. Louis
Sherry, Sol, St. Louis
Sherwin, Charles S., St. Louis
Shelvin, Charles F., St. Joseph
Shieber, William, St. Louis
Shields, J. B., St. Louis
Shiflet, Albert W., Wheeling
Shifrin, Alexander, Kansas City
Shireman, Kenneth L., Kansas City
Shires, Edward B., Leawood, Kan.
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Shirey, Arnold G., Hayti
Shobe, Frank O., St. Louis
Shockley, Clarence J., Kansas City
Shofstall, Charles K., Kansas City
Shopfner, Charles E., Kansas City
Shoss, Milton, Cape Girardeau
Shreffler, Algie R., Tavernier, Fla.
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Shuey, Herbert H., Kansas City
Shull, George D., Jefferson City
Shuman, Joseph S., St. Louis
Shumate, L. St. Clair, Reeds Spring
Shyken, Herman, St. Louis
Shypper, Moses J., Kansas City
Siceluff, Joseph G., Springfield
Siegel, Carl D., Sedalia
Siegel, Peter V., Washington, D. C.
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Siemers, George E., St. Louis
Siesener, Herbert H., St. Louis
Sievers, Edward F., Miami Beach, Fla.
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Signorelli, Andrew J., St. Louis
Silberman, Henry K., Columbia
Silsby, Don H., Springfield
Silsby, Don J., Springfield
Silsby, Harry D., Springfield
Silver, Bernd, St. Louis
Silver, Herbert, St. Louis
Silverberg, Charles, St. Louis
Silvermintz, Saul D., Ladue
Silverstein, Martin E., Kansas City
Simms, Otho M., St. Charles
Simon, David L., St. Louis
Simon, Jerome I., St. Louis

Simon, Nathan M., Clayton
Simon, Sanford, Shawnee Mission, Kan.
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Simpson, Albert P., Springfield
Simpson, Eber, St. Louis
Simpson, Emerson L., Springfield
Simril, Wayne A., Clayton
Sims, William A., Jr., St. Louis
Sinclair, Alexander B., Kansas City
Singleton, John M., III, Kansas City
Sisk, James C., St. Louis
Sisson, Richard G., St. Louis
Skeffington, Mary Jane, St. Louis
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Skillman, Robert K., Shawnee Mission, Kan.
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Skinner, John T., Kansas City
Sklenar, Donald E., St. Joseph
Slaughter, Carl R., N. Kansas City
Slaughter, Shelby C., Fredericktown
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Slentz, William A., Kansas City
Slickman, Robert A., Kansas City
Sloan, Roy C., Marshall
Sly, William S., St. Louis
Smiley, William, St. Louis
Smit, Herbert M., St. Louis
Smith, Arthur B., Kansas City
Smith, Audra B., Sikeston
Smith, Benjamin F., Jr., St. Louis
Smith, C. Franklin, Willow Springs
Smith, C. Souter, Springfield
Smith, Carl C., Moberly
Smith, Dale C., Kansas City
Smith, Dermott, St. Louis
Smith, Edwin I., Kansas City
Smith, Garland F., St. Louis
Smith, George E., St. Louis
Smith, Grafton A., Columbia
Smith, Herbert P., St. Louis
Smith, Hubert E., Kansas City
Smith, Hugh R., St. Louis
Smith, Ira T., Kansas City
Smith, J. Earl, St. Louis
Smith, Jack I., St. Louis
Smith, James O., Clinton
Smith, Jason N., Jr., Columbia
Smith, Joe R., Columbia
Smith, John R., St. Louis
Smith, Katherine W., Kansas City
Smith, Kathleen, St. Louis
Smith, Kenneth R., Jr., St. Louis
Smith, Milton, St. Louis
Smith, Othello D., Mission, Kan.
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Smith, Robert W., Marceline
Smith, Roland T., Joplin
Smith, Rollin H., West Plains
Smith, Sidney E., St. Louis
Smith, Ted P., Bowling Green
Smith, Wallace B., Independence
Smith, William J., Windsor
Smith, William R., Carthage
Smolik, Edmund A., St. Louis
Smoller, Martin B., St. Charles
Smull, Ned W., Kansas City
Snead, William H., Jr., Springfield
Sneid, Philip, Kansas City
Snider, Samuel H., Kansas City
Snider, Wilbur R., Independence
Snodgrass, W. T., Lubbock, Tex.
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Snyder, Edward N., Los Angeles, Calif.
(Member St. Louis Medical Society)
Somers, John E., Columbia
Sommer, Conrad S., St. Louis
Sommer, Ross B., St. Louis
Soto, Peter J., Jr., Belleville, Ill.
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Soule, Samuel D., St. Louis
Spafford, Allen L., Kansas City
Spalding, Donald G., St. Louis
Spalding, Wilber B., Plattsburg
Spalding, Wilber B., Jr., Kansas City
Sparkman, Thomas C., Cape Girardeau
Spears, Charles A., Branson
Spears, Joe L., Cabool
Spector, Gene W., St. Louis
Spelman, Archibald E., Smithville
Spencer, Andrew D., St. Louis
Spencer, Donald M., Independence
Speno, Angelo A., St. Louis
Spies, Barbara J., Kansas City
Spinzig, Edgar W., Kirkwood
Spitz, Milton A., Milwaukee, Wisc.
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Spoeneman, Marlin C., St. Louis
Spoenemann, Walter H., St. Louis
Sportsman, Weldon L., Kansas City
Spratt, John S., Jr., Columbia
Spurgeon, Milo J., Columbia
Spurny Otto M., Kansas City
Stacy, Wallace R., Independence
Stacy, Winton T., St. Joseph
Staehle, Melvin E., St. Louis
Stafford, Walter R., St. Louis
Staggs, William A., Kansas City
Staley, Harry R., Kansas City
Stallard, Donald J., St. Joseph
Stamp, Warren C., St. Louis
Stanfield, Ned M., Jr., St. Louis
Stansbrough, Raymond A., St. Louis
Staple, Tom W., St. Louis
Starke, Helen, Kansas City, Kan.
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Starkloff, Gene B., St. Louis
Starkloff, Max, St. Louis
Statland, Harry, Kansas City
Statland, Morris, Kansas City
Staton, R. Hamilton, Carrollton
Stauffacher, C. Gordon, Sedalia
Stauffer, Harry B., Jefferson City
Steele, Jack T., St. Louis
Steele, James C., Jr., Hannibal
Steffen, Lawrence F., Kansas City
Stegman, Elmer G., Raytown
Stein, Arthur H., Jr., St. Louis
Stein, Harry J., St. Louis
Stein, Joseph W., Kansas City
Stein, Leonard A., St. Louis
Stein, Martin F., St. Louis
Steinbeck, Herbert D., Chappaqua, N. Y.
(Member Franklin-Gasconade-Warren County Medical Society)
Steinbeck, Herbert F., Montgomery City
Steinberg, Franz U., St. Louis
Steiner, Alexander J., St. Louis
Stelle, Charles W., Kansas City
Stelmach, Walter J., Kansas City
Stephens, LeRoy J., St. Louis
Stephens, Louis F., St. Louis
Stephens, William A., St. Louis
Stephenson, Hugh E., Jr., Columbia
Stergen, Nick E., St. Louis
Sterkel, Richard L., St. Louis
Sterling, John A., Kirkwood
Stevens, Robert W., St. Louis
Stewart, Frances H., St. Louis
Stewart, John W., St. Louis
Stewart, Mark A., St. Louis
Stewart, Robert B., Springfield
Stewart, Robert H., Sedalia
Stewart, R. Wendell, Springfield
Stewart, Wendell K., Cape Girardeau
Stewart, William J., Columbia
Stewart, Worley K., El Dorado Springs
Stickle, Arthur W., St. Louis
Stickler, Ralph O., Kirksville
Stindel, Charles E., St. Louis
Stockton, Raymond W., Kansas City
Stockwell, A. Lloyd, Kansas City
Stokes, James M., St. Louis
Stolar, Jacob, St. Louis
Stone, Raymond F., Kansas City
Stoneman, William, III, St. Louis
Stotts, Charles S., Fredonia, Kan.
(Member Jackson County Medical Society)
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Strauchen, Gilbert W., Key Largo, Fla.
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Strauss, Arthur E., St. Louis
Strauss, Carl F., Kansas City
Streetor, Roderick D., St. Louis
Strehlman, Benjamin C., Union
Stribling, Thomas L., Independence
Stricker, Emil A., St. James
Stricker, Harold C., Jefferson City
Strittmatter, James C., Caruthersville
Strobach, Robert L., Butler
Strominger, Donald B., St. Louis
Stromsdorfer, Paul G., St. Louis
Strong, Richard M., Hannibal
Stroud, Malcolm H., St. Louis
Stryker, Gerold V., Venice, Fla.
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Stryker, William I., Ladue
Stuart, Byron M., Boonville
Stuart, Daniel D., Brunswick
Stuart, Wallace, St. Louis
Stuebner, Ronald W., St. Louis
Stuerman, Lawrence G., Louisiana
Stufflebam, Robert E., Springfield
Stumpf, Stanley E., Lebanon
Sturtevant, Harwood N., Springfield
Stutsman, Albert C., St. Louis
Suba, Antonio R., St. Louis
Sudholt, Alfred F., Jr., St. Louis
Sugarbaker, Everett D., Jefferson City
Sugg, Winfred L., Bethesda, Md.
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Sullivan, William W., Glendale
Summers, Caldwell B., Kansas City
Summers, Jacob H., Lebanon
Summers, John B., St. Louis
Summers, Joseph S., Jr., Jefferson City
Summers, Thomas F., St. Louis
Sunderman, Raymond C., St. Louis
Sundstrom, Frank D., Springfield
Sunshine, Herbert, St. Louis
Susanka, William D., St. Louis
Susman, Irvin C., St. Louis
Susman, Noah, St. Louis
Sutherland, Gladys P., Abilene, Tex.
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Sutphin, John B., St. Louis
Sutter, Richard A., St. Louis
Sutton, Richard L., Jr., Kansas City
Swafford, Owen J., Senath
Swarm, Richard L., Cincinnati, Ohio
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Sweet, Herbert C., Webster Groves
Sweets, Henry H., Jr., Hannibal
Sweiger, James H., Maysville
Swisher, Robert C., Kansas City
Switzer, Clyde, Overland Park, Kan.
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Sydow, Henry A., Fulton
Szabados, Ernest D., Independence
Szymanski, Stanley R., Macon

T

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Tahir, Mahammad, St. Louis
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Tapp, Ernest M., Poplar Bluff
Tapper, Stephen M., St. Louis
Tarrasch, Ernest L., Springfield
Trason, Solomon S., Overland Park, Kan.
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Tarvydas, Francis, Edina
Tashma, Sigmund, St. Louis
Tasker, Charles B., Kansas City
Tate, Lloyd L., St. Louis
Tatkow, Robert W., St. Louis
Taussig, Barrett L., St. Louis
Taute, Herman, St. Louis
Taveras, Juan M., St. Louis
Taylor, Eugene D., St. Louis
Taylor, Eugene T., St. Louis
Taylor, Helen L., St. Louis
Taylor, Leo T., Neosho
Taylor, Leon A., Jefferson City
Taylor, Van W., Bonne Terre
Taylor, William E., Springfield
Teare, Max E., Kansas City
Teiber, Frederick W., St. Louis
Tellez, Edward R., Fulton
Tendai, Mark M., Kirksville
Tenpenny, J. W., Poplar Bluff
Ternberg, Jessie L., St. Louis
Terrill, Robert S., Kansas City
Terry, James W., Jr., Cape Girardeau
Tess, Melvin J. H., St. Louis
Tesson, James A., Kansas City
Thale, Thomas, St. Louis
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Theel, J. Allen, St. Louis
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Thies, Jerome H., Osceola
Thoma, George E., Jr., St. Louis
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Thomas, Christopher Y., Kansas City
Thomas, Forrest, St. Joseph
Thomas, Horace E., Columbia

Thomas, Lewis J., Jr., St. Lous
Thomas, Thomas C., Buckner
Thomasson, David D., Springfield
Thomasson, Mary W., St. Louis
Thomasson, Robert E., St. Louis
Thompson, Charles L., Kansas City
Thompson, Emma A. B., Kansas City
Thompson, F. Gregg, Jr., St. Joseph
Thompson, F. Gregg, III, St. Joseph
Thompson, Ian M., Columbia
Thompson, J. William, St. Louis
Thompson, Lawrence D., St. Louis
Threadgill, Jesse M., Forsyth
Threlkeld, William L., Jr., Luluabourg via Leopoldville, Congo
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Thurber, Claude M., Windsor
Thurman, Hill C., Parkville
Thurmann, Manfred, St. Louis
Thym, Henry P., St. Louis
Tibbs, William A., Jr., St. Louis
Tice, Wayne K., Independence
Tichenor, Robert W., St. Louis
Tietjen, Frederick O., Jefferson City
Tiffany, D. E., Mt. View
Tillman, Mary A. T., St. Louis
Tillman, Walter W., Jr., Springfield
Tindall, Robert N., St. Louis
Tinsley, John C., Jr., Columbia
Tiongson, Porfirio M., St. Louis
Tippett, Jack C., St. Louis
Titmarsh, J. B., Jr., Columbia
Titterington, Paul F., St. Louis
Tjoflat, Oliver E., St. Louis
Tobias, Norman, St. Louis
Todd, Paul C., Carrollton
Tombridge, Thomas L., Springfield
Tomlinson, William L., St. Louis
Tonelli, George L., St. Louis
Torin, Bernice A., University City
Tosh, John W., Poplar Bluff
Totten, Frederick E., Kansas City
Tovar, Manuel, St. Joseph
Towers, Orville W., St. Charles
Townsend, James A., Clayton
Townsend, Vincent F., Clayton
Tracy, Herbert A., Belton
Treiman, Robert C., St. Louis
Tremain, Ernest E., Maplewood
Tremain, Irl G., St. Louis
Trigg, Joseph F., St. Louis
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Triska, Roland A., St. Louis
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Trotter, W. Yates, Springfield
Trowbridge, Barnard C., Kansas City
Trowbridge, Ellsworth H., Jr., Kansas City
Trueblood, Alva C., Jr., St. Louis
Trugly, Edith S., St. Louis
Trunko, Leo, St. Louis
Tsang, John L. K., Springfield
Tucker, Eugene F., St. Louis
Tucker, George L., St. Louis
Tull, Frank, Sikeston
Tuma, Arthur T., Poplar Bluff
Tureen, Louis L., St, Louis
Turner, C. M., St. Louis
Turner, Glenn O., Springfield
Turner, James H., Poplar Bluff
Turner, James K., St. Louis
Turner, Kirby L., Potosi
Turner, Roland M., Independence
Turner, Rush, St. Louis
Turner, William F., Poplar Bluff
Tutera, Dominic F., Kansas City
Tuthill, Herbert, Kansas City
Tuttle, Jay F., Fulton
Twedell, Donald L., St. Louis
Twin, Edward J., Kansas City
Twyman, Richard A., Kansas City
Tygett, Glenn J., Cape Girardeau
Tygett, Joseph N., Cape Girardeau

U

Uhlemeyer, Henry A., St. Louis
Ulett, George A., St. Louis
Ulett, Pearl C., St. Louis
Underwood, Dick H., Kansas City
Underwood, Harry A., Kansas City
Underwood, Johnson, Jr., Kansas City
Underwood, Ross H., Kansas City
Unger, Harold, Kansas City
Ungvari, Joseph C., St. Louis
Upsher, Albert E., Kansas City
Urban, Edgar D., Sikeston
Utley, James H., St. Louis
Utley, Joe R., St. Louis
Utterman, William F., Perryville

V

Vacca, Joseph B., St. Louis
Vail, A. Denton, Springfield
Valach, Frank J., Brentwood
Valtierra, Cesar A., St. Louis
Van Biber, James T., Independence
Van Buskirk, Terrance E., Kansas City
Van Buskirk, William C., Kansas City
Vanderpearl, Robert H., St. Louis
Vandiver, Virgil D., Chillicothe
Vandover, John T., St. Louis
Van Dyke, Elmer H., Sedalia
Van Goidsenhoven, Guy, Ferguson
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Van Peenen, Hubert J., Columbia
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Vaughan, J. Russell, St. Louis
Vaughn, Arthur N., St. Louis
Vaughn, James W., Kansas City
Velasco, Ernest, St. Louis
Venable, H. Phillip, St. Louis
Vensel, Lee H., Springfield
Verda, Dominic J., St. Louis
Vermeire, David A., Kansas City
Vermillion, Crofford O., St. Louis
Vescovo, Paul C., Jr., Kansas City
Vest, James C., St. Louis
Vester, James E., Bismarck
Vezeau, Stephen, St. Louis
Viers, Wayne A., St. Louis
Vilmer, Charles, Kansas City
Vincent, Jack C., Kansas City
Vinyard, Jack L., Carrollton
Vinyard, Paul, St. Louis
Viraghaty, Julius G., Manchester
Virant, John A., St. Louis
Virden, Herbert, Kansas City
Vitale, Anthony J., St. Louis
Vitale, Nicholas S., St. Louis
Vitt, Alvin E., St. Louis
Vitt, Edwin F., St. Louis
Viviano. Joseph G., St. Louis
Vogel, Eugene A., St. Louis
Vollmar, Clarence J., Webster Groves
Von Kaenel, Joseph E., St. Louis
Votaw, Robert E., St. Louis
Voth, Harold W., Kansas City
Vournas, Christopher G., St. Louis

W

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Waddle, Theodore L., Dexter
Wade, Frederick E., Kansas City
Wade, James P., St. Louis
Wadlow, Ernest E., St. Joseph
Wagenbach, William F., St. Louis
Waggoner, Charles M., Columbia
Waggoner, Sharon E., St. Joseph
Wagner, Paul J., Kansas City
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Wald, Donald M., N., Kansas City
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Walker, Ambrose T., Mammoth Springs, Ark.
(Member South Central Counties Medical Society)
Walker, Francis S., St. Louis
Walker, George S., Clinton
Walker, Harvey, Jr., University City
Walker, Hugh B., Clinton
Walker, J. Leslie, St. Louis
Walker, James C., Kansas City
Walker, John W., Kansas City
Walker, Orville C., Jr., Independence
Walker, Paul W., Joplin
Walker, Willard B., Clayton
Walker, William M., Springfield
Wall, Albert, Cape Coral, Fla.
(Member St. Louis Medical Society)
Wall, Emmett D., St. Louis
Wall, Harry C., Kansas City
Wall, Joe A., Houston
Wall, Leonard A., Kansas City
Wallace, Edgar S., Mexico
Wallace, Hilen K., Scottsdale, Ariz.
(Member Buchanan County Medical Society)
Walsh, James W., St. Louis
Walsh, Theodore E., St. Louis
Walsh, Thomas J., St. Louis
Walter, Archie L., Sedalia
Walter, Kenneth E., St. Louis
Walter, William L., St. Louis
Walters, Harold E., St. Louis
Walters, Henry W., St. Louis
Walters, John H., Columbia
Walters, Laura, Columbia
Walters, William H., St. Louis
Walterscheid, John H., Hannibal
Walther, Roy A., Jr., St. Louis
Walton, Franklin E., St. Louis
Walton, Marion C., Mt. View
Waltrip, Roy T., Jr., Sikeston
Wanamaker, John M., Rock Port
Ward, Joe, Lexington
Ward, Robert L., Centralia
Ward, Robert L., Kansas City
Warner, George K., Kirkwood
Warner, Robert G., St. Louis
Warren, T. Thomas, Potosi
Warres, Herbert L., Springfield
Washburn, J. Loren, Versailles
Washington, Edward L., Columbia
Wasserman, Helman C., St. Louis
Waterfield, Jim R., Springfield
Waterman, Franklin M., Liberty
Waters, E. Burton, Kirkwood
Waters, Hugh R., St. Louis
Watkins, George L., Jr., Farmington
Watson, Cecil L., Marshall
Watson, Ethel, Independence
Watson, Trevor F., Columbia
Wattenberg, Carl A., St. Louis
Watts, Byron E., Jefferson City
Waugh, George L., Kansas City
Waxman, David, Kansas City
Waxman, Jane Z., Kansas City
Wayland, Thomas A., Camdenton
Weakley, David R., Kansas City
Webb, Harry E., Kansas City
Webb, Leslie R., Jr., Springfield
Webb, Marion A., St. Louis
Webb, Paul B., St. Louis
Webb, Paul B., Jr., St. Louis
Webb, Paul K., St. Louis
Weber, J. R., St. Louis
Weber, Sol, St. Louis
Weber, William K., Bridgeton
Weed, Randal W., St. Joseph
Weeks, George R., Cape Girardeau
Weiford, Edward C., Kansas City
Weigensberg, Irving J., St. Louis
Weiler, Thomas J., St. Louis
Weinand, Ernest E., St. Joseph
Weinel, Francis G., St. Louis
Weinhaus, Robert S., St. Louis
Weinsberg, William C., St. Louis
Weintraub, Solomon A., St. Louis
Weir, Don C., St. Louis
Weir, Royal A., St. Louis
Weis, Matthew W., St. Louis
Weisbrod, Wilfred B., St. Louis
Weisman, Renate D., St. Louis
Weisman, Sol, St. Louis
Weiss, James M. A., Columbia
Weiss, Stuart, St. Louis
Weitman, Maximiliam, St. Louis
Welch, Hooper W., St. Louis
Well, Julius W., Palmyra
Wells, Donald E., Kansas City
Wells, James A., Kansas City
Wells, John H., Kansas City
Welsh, Laurence C., St. Louis
Weltcheff, Christo A., Kansas City
Wempe, G. Raymond, Maryville
Wenneker, Alvin S., St. Louis
Wennerman, Sam F., St. Louis
Wentzel, Louis R., St. Louis
Wepprich, Michael S., Ft. Lyon, Col.
(Member Franklin-Gasconade-Warren County Medical Society)
Werner, Dean F., N. Kansas City
Werner, Franklin C., Kansas City
Werner, William A., St. Louis
Wessler, Stanford, St. Louis
West, Joseph W., St. Louis
Westerfield, Roy A., St. Charles
Westerheide, Robert L., Mt. Vernon, Ohio
(Member St. Louis Medical Society)
Westerman, Henry C., St. Louis
Westrup, Ellsworth A., Webster Groves
Wetzel, Fred S., Jr., Carthage
Weyerich, Leon F., St. Louis
Weygandt, Glenn R., St. Louis
Wheeler, Charles B., Kansas City
Wheeler, John H., Kansas City
Wheeler, Robert L., Harrisonville
Whitaker, Topsey H., East Prairie

White, Charles H., Prairie Village, Kan. (Member Jackson County Medical Society)
White, George A., Kansas City
White, James S., Kansas City
White, Jefferson E., III, Columbia
White, Newton B., St. Louis
White, Orville O., St. Louis
White, R. Ned., Springfield
White, Stoughton F., Kansas City
White, William E., Kansas City
White, William H., Jr., St. Louis
Whiteman, John R., Kansas City
Whitener, Miles C., St. Louis
Whitener, Paul R., St. Louis
Whitman, Doyle C., Kansas City
Whitsell, Ora E., St. Joseph
Whittaker, Charles K., Kansas City
Whitten, Marion F., Carthage
Whittico, James M., St. Louis
Wiedershine, Leonard J., St. Louis
Wiegand, Herbert C., St. Louis
Wieman, Harry K., Joplin
Wien, Irving A., Kansas City
Wiese, Harry W., Clayton
Wiggins, Roland L., Columbia
Wilcox, Ruth E., Joplin
Wilcoxen, William B., Bowling Green
Wild, Aloysius A., St. Louis
Wiles, Jack N., West Plains
Wilhelm, Warren F., Kansas City
Wilkinson, Charles B., Kansas City
Wilkinson, Everett A., Kansas City
Will, Leo A., Venice, Fla. (Member St. Louis Medical Society)
Williams, Carol F., St. Louis
Williams, Charles S., Malden
Williams, Frank R., Kansas City
Williams, George P., Kansas City
Williams, Jerome, St. Louis
Williams, John M., Liberty
Williams, John W., Oak Grove
Williams, John W., Springfield
Williams, John W., Jr., Springfield
Williams, Joseph C., Jr., Kansas City
Williams, Ray D., St. Louis
Williams, Robert D., Smithville
Williams, Robert S., Mexico
Williams, Roland D., Kansas City
Williams, Starks J., Kansas City
Williams, Thomas A., Osceola
Williams, Vincent T., Kansas City
Williams, W. A., Jr., Cape Girardeau
Williamson, George L., Kansas City
Williamson, Joseph R., St. Louis
Williamson, Walter E., St. Louis
Willits, Lyle G., Kansas City
Willman, Charles R., St. Joseph
Willman, Vallee L., St. Louis
Willoughby, James W., Kansas City
Willoughby, Jean B., Kansas City
Willumsen, Henry C., St. Joseph
Wilson, Alice H., Joplin
Wilson, Charles F., Cape Girardeau
Wilson, Clifford C., Kansas City
Wilson, Daniel R., Leavenworth, Kan. (Member Ozarks Medical Society)
Wilson, Fred K., Winston
Wilson, George P., Columbia
Wilson, Hester J., Kansas City
Wilson, Hugh M., St. Louis
Wilson, John E., Columbia
Wilson, Keith S., St. Louis
Wilson, Loys C., Kennett
Wilson, Roy E., Springfield
Wilson, Stanley G., Jr., St. Louis
Wilson, Vernon E., Columbia
Wilucki, Leo E., St. Louis
Wilucki, Melvin R., St. Louis
Wimmer, Warren J., St. Louis
Wimp, Jesse J., Kirksville
Windmiller, Myrl E., Columbia
Windsor, Charles E., St. Louis
Winegar, Alvon C., Jefferson City
Winer, Herbert J., Kansas City
Winkelman, Esther B., Kansas City
Winn, George W., Boonville
Winokur, George, St. Louis
Winston, Bernard H., Kansas City
Winter, John H., St. Louis
Winter, Tyrus D., St. Louis
Winterer, Roland A., St. Louis
Winterling, Charles A., St. Louis
Winters, Kathleen, St. Louis
Wipfler, Earl J., Jr., St. Charles
Wippo, Edgar W., St. Louis
Wirthlin, Edward H., St. Louis
Wise, George W., Kansas City
Wise, Gordon F., Springfield
Wissmath, Frank S., Clayton
Wissner, Seth, St. Louis
Withers, Orval R., Kansas City
Withrow, John B., Kansas City
Witt, Clyde M., St. Louis
Witt, Frederick W., St. Louis
Wittgen, Edward M., St. Louis
Wittler, Harry A., St. Louis
Wittmer, Samuel C., Springfield
Wolcott, Lester E., Columbia
Wolf, Jack W., Kansas City
Wolfe, Edward, Ann Arbor, Mich. (Member St. Louis Medical Society)
Wolff, Harold D., St. Louis
Wolff, Paul G., Cape Girardeau
Wolff, Ray J., St. Louis
Wolfgram, Edwin D., St. Louis
Wollschlaeger, Gertraud, Columbia
Wollschlaeger, Paul, Columbia
Woltzen, Simon W., Clinton
Womack, Granville J., Chesterfield
Wommack, Fred L., Crane
Wood, Bennett R., St. Louis
Wood, George F., Fulton
Wood, George H., Carthage
Wood, James A., Clayton
Wood, William W., Springfield
Woodbridge, John H., St. Louis
Woods, Harold V., Independence
Woods, Ralph E., Clayton
Woods, S. Dwight, Kansas City
Woods, Walton C., Kansas City
Woodward, William W., Independence
Wooldridge, Bart F., Joplin
Wooldridge, Wilfred E., Springfield
Woolf, Ralph B., St. Louis
Woolsey, Robert M., St. Louis
Word, Parker H., St. Louis
Workman, Charles E., Kansas City
Workman, George M., Hermann
Worley, Charles A., Sweet Springs
Wortmann, Robert F., Kansas City
Wotawa, William J., St. Louis
Wray, Rolla B., Nevada
Wright, Earl J., N. Kansas City
Wright, Robert P., Kansas City
Wu, William Q., Kansas City
Wulff, George J. L., Jr., St. Louis
Wurr, Dieter, Arnold
Wurster, W. Joel, Kansas City
Wyatt, Lois C., Kirkwood

Y

Yadon, Raymond E., Nevada
Yeager, Gerald A., St. Charles
Yancey, Daniel L., Springfield
Yanow, Mitchell, St. Louis
Yates, J. Lewis, Mt. Vernon
Yeu-Tsu-Lee, M. D., Columbia
Ylagan, Amando, Jr., St. Louis
Yohe, Ruth M., Kansas City
Yore, Richard W., St. Louis
Yoskit, Harry, Festus
Youll, Donald V., Kansas City
Youmans, Ronald A., Kansas City
Young, Calvin C., Jr., Joplin
Young, James E., Kansas City
Young, Jesse W., Kansas City, Kan. (Member Jackson County Medical Society)
Young, Paul R., Kansas City
Young, Robert B., Rolla
Young, Robert H., Moberly
Youngblood, James P., Kansas City
Younge, Walter A., St. Louis
Younger, Anita, St. Louis
Younger, Ernest, St. Louis
Yuan, Louis S. K., St. Louis
Yuen, Pun Fai, Columbia

Z

Zacharias, David L., Kansas City
Zahn, Robert L., Springfield
Zahony, Ivan, Kansas City
Zahorsky, Theodore S., St. Louis
Zahrt, Frank H., Washington, D.C. (Member Grand River Medical Society)
Zeffren, Joel L., St. Louis
Zekert, Horst, St. Louis
Zellermayer, Jacob, Kansas City
Ziegelmeyer, John S., St. Louis
Ziegler, Anthony, Jr., Vandalia
Zillgitt, George H., St. Louis
Zimmerman, Herbert B., Olivette
Zimmerman, Joseph A., Kennett
Zingale, Frank G., St. Louis
Zink, Oscar C., St. Louis
Zuckner, Jack, St. Louis
Zukowski, Edward T., Fort Ord, Calif. (Member St. Louis Medical Society)
Zwart, Claude H., St. Louis
Zwirn, Benjamin H., St. Louis

Roster of Members by County Societies

ADAIR COUNTY
(North Central Counties Medical Society)

ANDREW COUNTY MEDICAL SOCIETY
(Savannah 64485)

Baker, Warren C., Savannah
Kelley, Gilbert B., Savannah
Kelley, Ralph R., Savannah

ATCHISON COUNTY
(Northwest Missouri Medical Society)

AUDRAIN COUNTY MEDICAL SOCIETY
(Mexico 65265)

Bradley, William W., Centralia 65240
Davis, Leonard L., Jr., 1415 S. Morris St.
Dwyer, Thomas L., 119 E. Love St.
Ector, Henry J., 314 S. Trinity St.
Ekern, H. Peter, 1415 S. Morris St.
Epple, Kathryn C., 502 E. Monroe St.
Epple, Lawrence K., 502 E. Monroe St.
Gantt, Ernest S., Jr., 105a W. Monroe St.
Garcia, Charles L., Mexico
Jolly, Benjamin N., 112 N. Clark Ave.
Jolly, William H., 112 N. Clark Ave.
Kallenbach, Glen P., 321 N. Washington St.
Lankford, Harold D., 117 E. Monroe St.
O'Brien, Harry F., Mexico
Rodes, Ned D., Mexico
Rouse, David M., 212 E. Monroe St.
Wallace, Edgar S., 210 E. Monroe St.
Williams, Robert S., Kemper Bldg.
Ziegler, Anthony, Jr., Vandalia 63382

BARRY COUNTY
(Ozarks Medical Society)

BARTON-DADE COUNTY MEDICAL SOCIETY

Arnold, Herbert M., Lamar 64759
Bauer, Harold A., Lockwood 65682
Bickel, Vern T., Lamar 64759
Cain, Alvin R., Lamar 64759
Carroll, Thomas W., Lamar 64759
Guldner, Edmond, Lamar 64759
McNeel, Lee A., Jr., Greenfield 65661

BATES COUNTY
(West Central Missouri Medical Society)

BENTON COUNTY MEDICAL SOCIETY

Logan, James A., Warsaw 65355

BOLLINGER COUNTY
(Unorganized)

BOONE COUNTY MEDICAL SOCIETY
(Columbia 65201)

Allen, Joseph E., Professional Bldg.
Allen, William C., 2401 Highland Dr.
Almond, Carl H., 807 Stadium Rd.
Anderson, Philip C., 807 Stadium Rd.
Anderson, Thomas R., 822 Yale St.
Anderson, William H., 2002 Valley View Dr.
Asel, Norman D., 807 Stadium Rd.
Austin, George N., 807 Stadium Rd.
Baker, A. Sherwood, 807 Stadium Rd.
Baker, James M., 16 South 10th St.
Battersby, Richard S., Candle Light Lodge
Black, Samuel P. W., 300 S. Glenwood St.
Bowen, Willet R., Mountain View Dr., Candlewood Lake Shores, Brookfield, Conn.
Boyce, John M., 620 E. Monroe, Mexico 65265
Brooke, Clement E., 901 Edgewood Ave.
Brukardt, Diane, 807 Stadium Rd.
Bruner, Claude R., Professional Bldg.
Buesseler, John A., 807 Stadium Rd.
Bumgarner, James E., 1504 E. Broadway
Bumgarner, Roger W., Route 1
Burkeholder, James N., 13107 Elsdale Ct., Rockville, Md.
Burns, Thomas W., 310 E. Brandon Rd.
Bynum, William R., 807 Stadium Rd.
Chalkley, Judson I., Boone County Hosp.
Cheek, Charles W., 113 W. Broadway
Chiasson, E. Chaille, 109 W. Broadway
Cochran, Donald Q., 1502 E. Broadway
Colwill, Jack M., 807 Stadium Rd.
Cook, Glaen B., 608 Spring Valley Rd.
Cooper, Maurice E., 1000 Wayne Rd.
Cope, James C., 1504 E. Broadway
Culley, Thomas S., 807 Stadium Rd.
Darnell, Thomas F. B., Doctors Clinic Bldg.
Denninghoff, James C., 201 W. Broadway
Dexheimer, Frank R., 113 W. Broadway
DeWeese, Marion S., 807 Stadium Rd.
Dietrich, Karl D., Professional Bldg.
Donegan, William L., Ellis Fischel Cancer Hosp.
Eggers, George W. N., Jr., 807 Stadium Rd.
Froelich, Robert E., 807 Stadium Rd.
Fuchs, George J., Jr., 1026 Hickory Hill Dr.
Galeota, William R., 807 Stadium Rd.
Garb, Solomon, 807 Stadium Rd.
Garrett, Glen H., Professional Bldg.
Gaunt, William D., 807 Stadium Rd.
Goldner, John C., 807 Stadium Rd.
Griffin, William T., 807 Stadium Rd.
Hall, David G., 807 Stadium Rd.
Hanna, Fikri M., 708 Hilltop Dr.
Hardwicke, Henry M., Ashland 65010
Harris, Robert J., 2008 Hazelwood Dr.
Haun, Cosmo L., 807 Stadium Rd.
Ide, Carl H., 600 Laurel Dr.
Jackson, Robert L., 807 Stadium Rd.
Johnson, Richard E., Boone County Hosp.
Keown, Kenneth K., 807 Stadium Rd.
Kubin, Milford T., Ellis Fischel Cancer Hosp.
LaChance, Leopold, Centralia 65240
Ladenson, Roland P., 16 South Tenth St.
Landor, John H., 807 Stadium Rd.
Leech, Charles A., 1504 E. Broadway
Leeper, Sidlee W., 1504 E. Broadway
Lewis, Ray B., 1502 E. Broadway
Litwiller, R. W., 1312 W. Broadway
Lodwick, Gwilym S., 208 Ridgeley Rd.
Logue, John T., 1504 E. Broadway
Lohmar, Roland E., 1501 West Blvd. Ct.
Lowney, John F., 807 Stadium Rd.
Lucas, Fred V., 807 Stadium Rd.
McElroy, Glenn L., 1504 E. Broadway
Mackenzie, James W., 807 Stadium Rd.
Marco, Philip J., 807 Stadium Rd.
Marienfeld, Carl J., 807 Stadium Rd.
Martt, Jack M., 807 Stadium Rd.
Matovich, Violet B., 807 Stadium Rd.
Mayer, William D., 10401 Grosvenor Pl., Rockville, Md. 20852
Mercado, Raul, Jr., 1709 Hinkson Ave.
Metzgar, Marshall T., 807 Stadium Rd.
Miller, Leroy J., Guitar Bldg.
Mitchell, Franklin L., 810 Greenwood Ct.
Modlin, John J., 706 Thilly Ave.
Moranvile, Benedict A., 1504 E. Broadway
Neal, M. Pinson, 807 Stadium Rd.
Overholser, Milton D., 807 Stadium Rd.
Parrish, Henry M., 807 Stadium Rd.
Payne, John W., 1504 E. Broadway
Pearman, Carl C., 923 College Park
Pfefer, Leland U., 1504 E. Broadway
Pickard, Clarence M., 113 W. Broadway
Pingelton, William B., 113 W. Broadway
Plumlee, John E., 807 Stadium Rd.
Rall, Kenneth L., USAH, Redstone Arsenal, Ala.
Ray, C. Thorpe, 807 Stadium Rd.
Raynor, Richard, 807 Stadium Rd.
Ridings, G. R., 810 Yale Ave.
Roark, Glenn E., 807 Stadium Rd.
Rodgers, Elrie P., Box 157
Ross, Gilbert, Jr., 807 Stadium Rd.
Russell, Garth, 1504 E. Broadway
Sabates, Felix N., 807 Stadium Rd.
Scheuber, Charles, 1504 E. Broadway
Schewe, Elmer J., Jr., 1232 Sunset Dr.
Schmidt, Charles R., 807 Stadium Rd.
Schwartz, John T., 807 Stadium Rd.
See, William B., 1504 W. Broadway
Senhauser, Donald A., 807 Stadium Rd.
Sheppard, Lee C., Jr., 608 Manor Dr.
Sights, Warren P., Jr., 807 Stadium Rd.
Silberman, Henry K., 223 South 5th St.
Smith, Grafton A., 917 Crestland Ave.
Smith, Jason N., Jr., 701 West Blvd. S.
Smith, Joe R., 1506 E. Broadway
Somers, John E., 807 Stadium Rd.
Spratt, John S., Jr., 105 S. Glenwood Ave.
Spurgeon, Milo J., 404 Edgewood Ave.
Stephenson, Hugh E., Jr., 807 Stadium Rd.
Stewart, William J., 909 University Ave.
Thomas, Horace E., 1504 E. Broadway
Thompson, Ian M., 807 Stadium Rd.
Tinsley, John C., Jr., 16 S. Tenth St.
Titmarsh, J. B., Jr., 308 Leslie La.
VanLeeuwen, G., 807 Stadium Rd.
VanPeenen, Hubert J., 807 Stadium Rd.
Waggoner, Charles M., 201 W. Broadway
Walters, John H., 11 S. Williams St.
Walters, Laura, 11 S. Williams St.
Ward, Robert L., Centralia 65240
Washington, Edward L., 1504 E. Broadway
Watson, Trevor F., 1504 E. Broadway
Weiss, James M. A., 807 Stadium Rd.
White, Jefferson E., III, 104 E. Parkway Dr.
Wiggins, Roland L., 201 N. Third
Wilson, George P., 201 W. Broadway
Wilson, John E., 509 Laurel Dr.
Wilson, Vernon E., 807 Stadium Rd.
Windmiller, Myrl E., 1504 E. Broadway
Wolcott, Lester E., 2417 Beachview Dr.
Wollschlaeger, Gertraud, 1724 E. Broadway
Wollschlaeger, Paul, 1724 E. Broadway
Yeu-Tsu-Lee, M. D., 807 Stadium Rd.
Yuen, Pun Fai, 2200 W. Broadway

BUCHANAN COUNTY MEDICAL SOCIETY
(St. Joseph)

Acuff, R. Phillip, 702 Jule St. 64501
Allaman, John M., 524 Spoonhill Dr. N., Sarasota, Fla.
Ames, Mary B., 2318 Lovers La. 64505
Ames, William H., 902 Edmond St. 64501
Augustine, Robert W., 902 Edmond St. 64501
Bascom, Charles H., c/o Sudan Interior Mission, 164 W. 74th St., New York, N. Y. 10023
Beck, Paul M., Kirkpatrick Bldg. 64501
Beheler, Edward M., 2405 Frederick Ave. 64501
Benson, Scott C., 324 N. 6th St. 64501
Berney, Francis J., Kirkpatrick Bldg. 64501
Boteler, George M., 422 W. 47th St., Kansas City 64112
Bristow, Robert B., Physicians & Surgeons Bldg. 64501
Bryant, Sydney L., 902 Edmond St. 64501
Butler, Elza F., 902 Edmond St. 64501
Carpenter, George T., 902 Edmond St. 64501
Christ, Martin H., 6106 King Hill Ave. 64504
Craig, Owen W. D., Kirkpatrick Bldg. 64501
Craig, Richard O., 3900 Miller Rd. 64505
Day, Maxwell, 1353 Buchanan Ave. 64501
DuMont, Clement C., 1905 Francis St. 64501
Ferguson, Luther J., 2907 Francis St. 64501
Fisher, Joseph L., 7th & Jule Sts. 64501
Forgrave, John R., 420 N. 8th St. 64501
Forgrave, Leon P., 420 N. 8th St. 64501
Forman, George W., P.O. Box 830 64502
Fuson, Levi H., Kirkpatrick Bldg. 64501
Grant, Claude S., 1302 Faron St. 64501
Greenberg, Charles, 10669 Rochester Ave., Los Angeles, Calif. 90024
Grimes, Manning E., Kirkpatrick Bldg. 64501
Gunter, Joe S., 902 Edmond St. 64501
Handler, Eric, Physicians and Surgeons Bldg. 64501
Harner, Casper G., 902 Edmond St. 64501
Hayes, Paul W., 902 Edmond St. 64501
Herman, Allen I., Physicians and Surgeons Bldg. 64501
Howden, Thomas L., 2723 Francis St. 64501
Hughes, Judson M., 1316 Woodhill Rd., Columbia 65201
Hunt, William J., 2600 Pacific St. 64507
Ide, Lucien W., P. O. Box 830 64502
Kieber, Robert W., Kirkpatrick Bldg. 64501
Kline, Carlyn M., 17 Stonecrest St. 64506
Kline, Edmund W., 510 Francis St. 64501
Knepper, Paul A., Box 830 64502
Kratz, Frederick W., 1927 W. 152 Highway, Liberty 64068
Kulowski, Jacob, 2404 Highly St. 64506
Lee, Carleton H., 1402 Faraon St. 64501
Lehman, Philip C., 510 Francis St. 64501
McDaniel, John R., 902 Edmond St. 64501

McDonald, Wilbur P., 301 N. 8th St. 64501
Maginn, Richard L., 702 Jule St. 64501
Marston, F. James, Jr., 902 Edmond St. 64501
Martin, John N., Physicians and Surgeons Bldg. 64501
Minton, Robert S., 2221 Eugene St. 64505
Moen, Berwyn H., 902 Edmond St. 64501
Morse, Marvin, 2702 Faraon St. 64501
Mothershead, John L., 2603 Frederick Ave. 64501
Muench, Albert H., Physicians and Surgeons Bldg. 64501
Mundy, Homer F., 2801 Sacramento Ave. 64507
Ness, Carl K., 902 Edmond St. 64501
O'Connor, William B., 510 Francis St. 64501
Petersen, Harold E., 2401 Frederick Ave. 64501
Pettit, Manson B., Box 263 64501
Pfeffer, Robert I., 1915 N. 29th St. 64506
Pifer, Lawrence H., 1302 Faraon St. 64501
Potter, Caryl A., Jr., Pioneer Bldg. 64501
Potter, Thompson E., 731 Faraon St. 64501
Quintana, Manuel M., 460 S.W. 3rd St., Miami, Fla.
Redmond, William, Corby Bldg. 64501
Riddell, Richard V., 902 Edmond St. 64501
Roberts, Phyllis Grant, 3314 Linda La. 64506
Rogers, John T., 2502 Ashland Ave. 64506
Rosenthal, Irvin I., 2715 Union Ave. 64506
Rost, William B., 2221 N.W. Extension Blvd. 64506
Ryan, John H., 301 N. 8th St. 64501
Senne, Herbert C., 223 N. 7th St. 64501
Senor, Samuel E., 722 Francis St. 64501
Shevlin, Charles F., 902 Edmond St. 64501
Sklenar, Donald E., 228 Illinois Ave. 64504
Stacey, Winton T., 1215 N. 24th St. 64506
Stallard, Donald J., 902 Edmond St. 64501
Tadlock, Baxter W., 316 W. Noyes St. 64501
Thomas, Forrest, State Hospital 2 64506
Thompson, F. Gregg, Jr., P. O. Box 830 64502
Thompson, F. Gregg, III, 902 Edmond St. 64501
Tovar, Manuel, 13th & Faraon St. 64501
Wadlow, Ernest E., 510 Francis St. 64501
Waggoner, Sharon E., 301 Illinois Ave. 64504
Wallace, Hilen K., 7662 E. Northland Dr., Scottsdale, Ariz.
Weed, Randal W., 702 Jule St. 64501
Weinand, Ernest E., 902 Edmond St. 64501
Whitsell, Ora E., 802 N. 23rd St. 64506
Willman, Charles R., 2405 Frederick Ave. 64501
Willumsen, Henry C., 902 Edmond St. 64501

BUTLER-WAYNE-RIPLEY COUNTY MEDICAL SOCIETY
(Poplar Bluff 63901)

Barbour, Marvin R., Kneibert Clinic
Beecher, Sheldon B., 1517 Rosedale Ave.
Biggs, Fred J., Jr., Kneibert Clinic
Brandon, Walter L., Euel Rd.
Brookreson, Alton D., 700 Hendrix Dr.
Brookreson, Alton F., 321 Oak St.
Caldwell, Fred, Kneibert Clinic
Canlas, Emilio M., 705 Pine Blvd.
Cline, Harold H., Piedmond 63957
Dinelli, Frank E., 215 Oak St.
Engelhardt, Robert C., Kneibert Clinic
Gernstetter, Sangwill L., P. O. Box 473
Hansbrough, Eugene T., 623 Pine Blvd.
Harwell, J. Lester, 40 Plaza Sq., St. Louis 63103
Hecker, Joseph E., Kneibert Clinic
Hoja, W. Alexander, Kneibert Clinic
Kneibert, Fred L., Kneibert Clinic
Leroux, Gene, Doniphan 63935
Loughead, John R., 330 N. 2nd St.
McLain, Bobby M., 724 Cynthia St.
McLane, Jerry F., 330 N. 2nd St.
McPheeters, James W., Sr., 330 N. 2nd St.
Macauley, Bernard J., 215 Oak St.
Markel, Arthur D., Kneibert Clinic
May, Albert L., Jr., 330 N. 2nd St.
Miller, David V., Kneibert Clinic
Parker, Arthur C., Jr., Kneibert Clinic
Post, Cyril A., 123 S. Broadway
Raper, Charles A., 1409 Parkview Ave.
Robertson, William D., Poplar Bluff 63901
Ruff, T. Eugene, Kneibert Clinic
Tapp, Ernest M., 634 Pine Blvd.
Tenpenny, J. W., 217 Oak St.
Tosh, John W., 217 Oak St.
Tuma, Arthur T., 215 Oak St.
Turner, James H., 217 Oak St.
Turner, William F., 217 Oak St.

CALDWELL COUNTY
(Grand River Medical Society)

CALLAWAY COUNTY MEDICAL SOCIETY
(Fulton 65251)

Brown, John J., 101 E. 6th St.
Brown, Katherine S., 1304 Vine St.
Cremer, William J., State Hosp. No. 1
Crews, Robert N., 612 Court St.
Durst, Henry, 610 Court St.
Gish, Rutledge, 5 E. 5th St.
Groce, George, 607 Court St.
Hill, James E., 607 Court St.
Jackson, Vernon B., State Hosp. No. 1
Kepler, Earl C., State Hosp. No. 1
Osbourn, Richard A., 102 Saults Addition
Peterson, Donald B., State Hosp. No. 1
Ritterbusch, James K., State Hosp. No. 1
Robertson, Robert C., State Hosp. No. 1
Rusk, Earl M., Camdenton 65020
Sydow, Henry A., 11 E. 5th St.
Tellez, Edward R., 10 E. Reed St.
Tuttle, Jay F., State Hosp. No. 1
Wood, George F., 614 Market St.

CAMDEN COUNTY

Garrison, T. W., Camdenton 65020 (Member Mid-Missouri County Medical Society)
Holley, Donald B., Camdenton 65020 (Member Mid-Missouri County Medical Society)
Rusk, Earl M., Camdenton 65020 (Member Callaway County Medical Society)
Wayland, Thomas A., Camdenton 65020 (Member Cole County Medical Society)

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY
(Cape Girardeau 63701)

Alyea, J. O., 1869 Drury La.
Ashley, Hugh V., 234 N. Sprigg St.
Ashley, Hugh V., Jr., 234 N. Sprigg St.
Bahn, Charles F., 1902 W. Broadway
Barnes, Seth S., 1854 Broadway
Blankenship, Dale M., 1930 Broadway
Burford, Edwin K., Jr., 937 Broadway
Campbell, Edward D., 937 Broadway
Chapman, Jean A., 1902 W. Broadway
Cochran, Jo R., 24 N. Sprigg St.
Crites, Edward, Sedgewickville 63781
Crowe, John T., 937 Broadway
Elrod, Dennis B., 211 N. Sprigg St.
Estes, Albert M., 714 Broadway
Ford, Walter W., Gordonville 63752
Hall, Frank W., 1912 Broadway
Herbert, Charles T., 824 Good Hope St.
Holcomb, John K., 24 N. Sprigg St.
Hoxworth, Gerald M., 210 Christine St.
Jaeger, Joseph N., 208 S. High St., Jackson 63755
Johnson, Earl W., 927 Broadway
Juden, Alexander G., R. R. #2
Jung, J. Marshall, Box 368, Illmo 63754
Kasten, Melvin C., 1209 Sailer Circle
Keim, John H., 230 N. Sprigg St.
Kinder, James A., 937 Broadway
Kratz, Paul, 1912 Broadway
Lovinggood, Thomas A., 649 Sylvan La.
McDonald, Eugene F., 125 Court St., Jackson 63755
McGinty, Charles P., 1834 Broadway
Magaletta, George E., 937 Broadway
Nunnelly, Gordon M., 1924 Broadway
Nussbaum, Paul B., 1858 Broadway
Nussbaum, Paul S., 1858 Broadway
Oehler, William F., 213 N. Sprigg St.
Otto, Thomas G., 1912 Broadway
Parsons, D. LeRoy, 24 N. Sprigg St.
Rapp, Harold B., 1011 N. Henderson St.
Rawlins, Fred E., 1607 Berthing Ave.
Reynolds, Garland A., 826 Themis St.
Ridings, Harold D., 937 Broadway
Ritter, Raymond A., 1912 Broadway
Seabaugh, Dayton I. L., 106 E. First N., Jackson 63755
Seabaugh, L. R., 219 N. Pacific St.
Seabaugh, Oda L., 24 N. Sprigg St.
Seabaugh, William O. L., 24 N. Sprigg St.
Shoss, Milton, 937 Broadway
Sparkman, Thomas C., 210 Christine St.
Stewart, Wendell K., 937 Broadway
Talbert, Clifford R., 1902 Broadway
Terry, James W., Jr., 219 N. Pacific St.
Tygett, Glenn J., 215 N. Sprigg St.
Tygett, Joseph N., 1834 Broadway
Weeks, George R., 1728 Bessie Ave.
Williams, W. A., Jr., 24 N. Sprigg St.
Wilson, Charles F., 714 Broadway
Wolff, Paul G., 1819 Broadway

CARROLL COUNTY
(Grand River Medical Society)

CARTER-SHANNON COUNTY MEDICAL SOCIETY

Rollins, Harry D., Winona 65588

CASS COUNTY
(West Central Missouri Medical Society)

CEDAR COUNTY
(West Central Missouri Medical Society)

CHARITON-MACON-MONROE-RANDOLPH COUNTY MEDICAL SOCIETY

Arnold, Eugene L., V. A. Hosp., Jefferson Barracks 63125
Baker, Josephine D., Moberly 65270
Barnett, Floyd A., Paris 65275
Campbell, James E., Macon 63552
Chute, W. Deward, Moberly 65270
Cohrs, Clarence C., Moberly 65270
Collins, Gretchen D., Macon 63522
Dreyer, Philip V., Huntsville 65259
Eggleston, Donald E., Macon 63522
Fleming, J. Will, Jr., Moberly 65270
Fleming, Thomas S., Moberly 65270
Harms, Florian L., Salisbury 65281
Hasson, Robert, Moberly 65270
Huber, Lasley E., Moberly 65270
Miller, D. Herbert, 4410 Denison St., Muskogee, Okla.
Miller, Howard S., Macon 63522
Ragsdale, George M., Paris 65275
Rowlette, Avery P., Moberly 65270
Smith, Carl C., Moberly 65270
Streetor, Roderick D., 245 Union Blvd., St. Louis 63108
Stuart, Daniel D., Brunswick 65236
Szymanski, Stanley R., Macon 63522
Young, Robert H., Moberly 65270

CHRISTIAN COUNTY
(Ozarks Medical Society)

CLARK COUNTY
(Lewis-Clark-Scotland County Medical Society)

CLAY COUNTY MEDICAL SOCIETY

Adams, Howard D., 114 N. Water St., Liberty 64068
Allain, James J., 2022 Swift St., N. Kansas City 64116
Allan, James R., 110 E. Broadway, Excelsior Springs 64024
Allen, Louis A., 2800 Hospital Dr., N. Kansas City
Armstrong, Jay H., 4812 Black Swan Dr., Shawnee Mission, Kan.
Arst, Herbert E., 7529 N. Tracy St., Kansas City 64118
Balhuizen, John, 2730 S. Mall, Kansas City 64119
Bates, George C., 2730 S. Mall, Kansas City 64119
Boone, Daniel S., 5800 N. Grand Ave., Kansas City 64118
Bowles, Richard P., 112 N. Water St., Liberty 64068
Bruce, Paul C., 115 S. Titus Ave., Excelsior Springs 64024
Burke, Emmet K., 5140 Antioch Rd., Kansas City 64119
Castillo, Michael E., 2522 Vivion Rd., N. Kansas City 64116
Chastain, Maurice W., 2016 Swift Ave., N. Kansas City 64116
Chiles, David R., Box 238, Smithville 64089
Dunham, Robert H., 2025 Swift Ave., N. Kansas City 64116
Dwyer, Reinhardt D., 405 E. 19th St., N. Kansas City 64108
Edwards, Theodore F., 2029 Burlington St., Kansas City 64116

Fakhoury, Donald A., 4030 N. Oak St., Kansas City 64111
Fischer, Edward H., 306 E. 21st Ave., N. Kansas City 64108
Fowler, I. Charles, 2025 Swift S., N. Kansas City 64116
Galbol, Harley, Box 950, Excelsior Springs 64024
Gauer, Robert J., 2730 S. Mall, Kansas City 64119
Hall, James W., 6712 N. Oak Trafficway, Kansas City 64118
Hayes, Lawrence L., 8400 N. Oak Trafficway, Kansas City 64155
Hedges, Richard C., 402 St. Louis Blvd., Excelsior Springs 64024
Hendren, Glenn W., 114 N. Water St., Liberty 64068
Hendren, Thomas H., Box 1000, Kearney
Hodge, Robert H., 2204 E. 39th St., N. Kansas City 64109
Houck, Russell M., V. A. Hospital, Kecoughtan, Va.
King, Phillip E., 101 W. Kansas St., Liberty 64068
Kuenzi, Donald E., 8630 N. Oak Trafficway, Kansas City 64155
Langhus, Melvin O., 104 W. Englewood Rd., N. Kansas City 64118
Lindquist, Paul A., 1940 152 Highway, Liberty 64068
McCormick, James E., 4030 N. Oak St., Kansas City 64111
McCracken, Samuel R., 107 W. Spring St., Excelsior Springs 64024
McPhee, William R., 2800 Hospital Dr., Kansas City 64116
Marsh, Wallace S., 4157 Strategic Wing, APO 937, Seattle, Wash.
Mullins, Bernard L., 405 E. 19th St., N. Kansas City 64108
Musgrave, David E., Excelsior Springs 64024
Parker, Robert H., 2005 Fayette Ave., N. Kansas City 64116
Pate, Otho S., Pioneer Bldg., N. Kansas City
Perry, Lawrence L., Jr., 6300 N. Lenox St., Kansas City 64151
Pileggi, Felix A., 405 E. 19th St., N. Kansas City 64108
Porter, Russell C., 1351 Weeburn Rd., Seal Beach, Calif.
Revare, Paul, 4100 Vivion Rd., Kansas City 64119
Richardson, William D., Baptist Medical Center, Nalerigu Via Gambaga, Ghana, W. Africa
Roberts, L. Marvin, 5140 Antioch Rd., Kansas City 64119
Robichaux, Eugene B., 116 South St., Excelsior Springs 64024
Robinson, Van M., 4124 Vivion Rd., Kansas City 64119
Sanders, George E., 116 South St., Excelsior Springs 64024
Sawyer, Floyd E., 2510 E. Vivion Rd., Kansas City 64118
Schertz, Truman B., 2022 Swift St., N. Kansas City 64116
Slaughter, Carl R., 405 E. 19th Ave., N. Kansas City 64108
Spelman, Archibald E., Smithville 64089
Sportsman, Weldon L., 6309 N. Grand Ave., Kansas City 64118
Wald, Donald M., 2800 Hospital Dr., N. Kansas City 64116
Waterman, Franklin M., Liberty 64068
Waugh, George L., 2730 S. Mall, Kansas City 64119
Werner, Dean F., 2025 Swift St., N. Kansas City 64116
Werner, Franklin C., 5140 Antioch Rd., Kansas City 64119
Williams, John M., 32 S. Main St., Liberty 64068
Williams, Robert D., Smithville 64089
Withrow, John B., 5140 Antioch Rd., Kansas City 64119
Wright, Earl J., 5513 Scandia La., N. Kansas City
Zacharias, David L., Rt. 22, Box 209, Kansas City 64141

CLINTON COUNTY MEDICAL SOCIETY

Kimes, Ira D., Cameron 64429
Luckenbill, Paul T., Plattsburg 64477
Mabrey, John P., Plattsburg 64477
Ozenberger, Larry A., Plattsburg 64477
Spalding, Wilber B., Plattsburg 64477

COLE COUNTY MEDICAL SOCIETY
(Jefferson City 65101)

Belden, Edgar A., State Office Bldg.
Belinson, Louis, 722 Jefferson St.
Bowe, Edwin E., 401 N. Ridgway St.
Bregant, Robert E., 1017 Laurel Dr.
Bruce, James G., 1921 W. Main St.
Clark, Kendall A., 515 E. High St.
Cox, William A., 105 E. High St.
Doyle, Matthew J., 515 E. High St.
Enloe, Lawrence D., Trust Bldg.
Exon, C. Stuart, 515 E. High St.
Fullgrabe, E. A., State Office Bldg.
Garner, Lynn M., State Division of Health
Gentry, Merritt L., Warsaw 65355
Gordon, James S., 515 E. High St.
Guhleman, Henry V., Jr., Medical Arts Bldg.
Gurnee, Landon H., 515 E. High St.
Handler, Fred P., 614 Boonville Rd.
Kanagowa, Hajime H., Medical Arts Bldg.
Kelly, Marshall W., 507 E. High St.
Klebba, Larry B., P. O. Box 403
Leslie, J. Paul, 933 Fairmount Blvd.
Leslie, James T., 4612 Hanford La., Louisville, Ky.
Leslie, James T., Jr., 214 Jackson St.
Loyd, Earl L., 1448 W. Dunklin St.
McHaney, John W., 606 E. High St.
McKnelly, William V., 507 E. High St.
Mansur, Edward E., R. F. D. 2, Box 629D, Stuart, Fla.
Matthews, John I., 302 Bolivar St.
Maxey, Hugh W., Prison Physician, Box 236
Meier, Francis X., 1913 Haysilton Dr.
Meinershagen, Charles W., 138 Forest Pl.
Melia, Bernard J., Jr., Medical Arts Bldg.
Ossman, Julian A., 2505 W. Main St.
Russell, Joseph P., Division of Health
Sanders, Jack S., 515 E. High St.
Schmidt, J. H., 515 E. High St.
Scott, E. David, 238 E. High St.
Sennott, John S., 515 E. High St.
Shull, George D., 521 E. High St.
Stauffer, Harry B., Central Trust Bldg.
Stricker, Harold C., 515 E. High St.
Sugarbaker, Everett D., 503 E. High St.
Summers, Joseph S., Jr., 515 E. High St.
Tanner, Robert H., 1608 Greenberry Rd.
Taylor, Leon A., 129 E. High St.
Tietjen, Frederick O., 213 Jackson St.
Watts, Byron E., 515 E. High St.
Wayland, Thomas A., Box 239, Camdenton 65020
Winegar, Alvon C., 515 E. High St.

COOPER COUNTY MEDICAL SOCIETY
(Boonville 65233)

Abele, William A., 329 Main St.
Avery, Willard B., 329 Main St.
Beckette, Theodore C., 317 Main St.
Boley, James O., 3200 E. Meyer Blvd., Kansas City 64132
Chamberlain, Gilbert L., 570 E. Spring St.
Diekroeger, Manuel L., Route 1
Draper, Bernard, 329 Main St.
Hata, Daikichi, 329 Main St.
Humphreys, Edward T., 329 Main St.
Stuart, Byron M., 329 Main St.
Winn, George W., 329 Main St.

CRAWFORD COUNTY
(Mid-Missouri County Medical Society)

DADE COUNTY
(Barton-Dade County Medical Society)

DALLAS-HICKORY-POLK COUNTY MEDICAL SOCIETY

Barnett, Charles H., Bolivar 65613
Brooks, John M., 840 S. Pickwick St., Springfield 65804
Griffin, Evelyn, Buffalo 65622
Griffin, Olin A., Jr., Buffalo 65622
Harrell, Henry J., Rt. 1, Box 263B, Summerfield, Fla. 32691
Kohler, Monte R., Bolivar 65613
Koon, Ben H., Bolivar 65613
McCraw, Doyle C., Bolivar 65613
Robinson, George C., Humansville 65674

DAVIESS COUNTY
(Grand River Medical Society)

DEKALB COUNTY
(Grand River Medical Society)

DENT COUNTY
(Mid-Missouri County Medical Society)

DOUGLAS COUNTY
(South Central Counties Medical Society

DUNKLIN COUNTY MEDICAL SOCIETY

Baldwin, Paul, Kennett 63857
Beal, Homer, Malden 63863
Benson, Leo J., Jr., Kennett 63857
Cash, Charles R., Kennett 63857
Croom, Dorwyn W., Malden 63863
Crow, Asa A., Cardwell 63829
Dunmire, George Q., Kennett 63857
English, Wallace D., Cardwell 63829
Hopkins, Florian G., Gideon 63848
Joffe, Irwin, 617 W. Main St., Paragould, Ark.
Miltenberger, Paul C., Kennett 63857
Morehead, William E., Malden 63863
Palenske, Robert L., Homersville 63855
Peck, Chester R., Jr., Kennett 63857
Rutledge, William J., Campbell 63933
Swafford, Owen J., Senath 63876
Tarver, Quinton, Kennett 63857
Williams, Charles S., Malden 63863
Wilson, Loys C., Kennett 63857
Zimmerman, Joe A., Kennett 63857

FRANKLIN-GASCONADE-WARREN COUNTY MEDICAL SOCIETY

Baker, Donald L., Union 63084
Bonney, Samuel C., Washington 63090
Bozzo, Raymond J., Washington 63090
Brenner, Paul A., Owensville 65066
Crawford, Robert M., Sullivan 63080
de la Torre, John J., Sullivan 63080
Denny, Hubert M., Union 63084
Eisenmann, Benjamin P., New Haven 63068
Eyermann, H. Walter, Warrenton 63383
Giem, Ross N., Sullivan 63080
Hoelscher, Harold F., Warrenton 63383
Johnson, Grover C., Marthasville 63357
Mays, Frank G., Washington 63090
Mitchell, Thomas J., St. Clair 63077
Moellenhoff, Robert W., Washington 63090
Muench, Ludwig O., Washington 63090
Murney, Joseph A., Washington 63090
Pearl, John F., 37 S.E. Third St., Boca Raton, Fla. 33432
Post, John P., Washington 63090
Richardson, George A., Union 63084
Richardson, William R., Union 63084
Royse, Roy P., Sullivan 63080
Ryan, John B., Washington 63090
Schmidt, Charles A., Gerald 63037
Shaw, Carvel T., Hermann 65041
Shea, James G., Gerald 63037
Steinbeck, Herbert D., 21 Hilltop Dr., Chappaqua, N. Y.
Strehlman, Benjamin G., Union 63084
Wepprich, Michael S., 501 West C St., Ft. Lyon, Colo. 81038
Workman, George M., Hermann 65041

GASCONADE COUNTY
(Franklin-Gasconade-Warren County Medical Society)

GENTRY COUNTY
(Northwest Missouri Medical Society)

GRAND RIVER MEDICAL SOCIETY
(Caldwell-Carroll-Livingston-Grundy-Daviess-Harrison-Linn-Mercer-DeKalb Counties)

Allen, Erroll W., Carrollton 64633
Bales, Eugene L., Carrollton 64633
Bohnsack, Ralph W., Brookfield 64628
Brennan, Raymond J., Chillicothe 64601
Brewer, Lake, Ridgeway 64481
Brownfield, Samuel T., Brookfield 64628
Broyles, Watkins A., Bethany 64424
Carpenter, George W., Chillicothe 64601
Carter, Howard, Hamilton 64644
Clark, Chester L., Trenton 64683
Conrad, Joseph, Chillicothe 64601
Cross, Albert D., Trenton 64683
Daley, Frank R., Hamilton 64644
Dixon, John R., Brookfield 64628
Dowell, Donald M., Chillicothe 64601
Dowell, J. Larry, Pattonsburg, 64670
Duffy, Oliver F., Trenton 64683
Ellsworth, Willard, Cainsville 64632
Fair, William L., Chillicothe 64601
Fuson, William A., Trenton 64683
Gale, Joseph F., Chillicothe 64601

Gary, George, Marceline 64658
Gearhart, Marriam, Bethany 64424
Hoenig, Hector F., Jr., Bethany 64424
Horner, Glennon A., Marceline 64658
Howell, Billy D., Brookfield 64628
Kimberlin, Herbert C., Trenton 64683
McArtor, Thomas R., Browning 64630
Magill, Joseph S., Milan 63556
Mairs, Edgar J., Trenton 64683
Mandler, George, Chillicothe 64601
Nixon, Edward E., Gallatin 64640
Pemberton, Charles W., 1111 Army Navy Drive, Arlington, Va.
Platz, John H., Carrollton 64633
Shiflet, Albert W., Wheeling 64688
Smith, Robert W., Marceline 64658
Staton, R. Hamilton, Carrollton 64633
Sutherland, Gladys P., 1401 Roanoke, Abilene, Tex.
Sweiger, James H., Maysville 64469
Thompson, Emma A. B., 442 W. 69th St., Kansas City 64113
Todd, Paul C., Carrollton 64633
Vandiver, Virgil D., Chillicothe 64601
Vinyard, Jack L., Carrollton 64633
Wilson, Fred K., Winston 64689
Zahrt, Frank H., Algiers Dept. of State, Washington, D. C. 20521

GREENE COUNTY MEDICAL SOCIETY
(Springfield)

Allen, Jerry H., 1211 S. Glenstone St. 65802
Allison, James B., 600 S. Glenstone St. 65802
Anthony, Dallas D., Professional Bldg. 65806
Ash, Charles J., Professional Bldg., 65806
Ashley, Thomas E., 1211 S. Glenstone St. 65802
Atkinson, Thomas E., Jr., 609 E. Cherry St. 65806
Auner, Cecil R., 600 S. Glenstone St. 65802
Baldwin, Richard, 600 S. Glenstone St. 65802
Blades, Ross D., 1211 S. Glenstone St. 65802
Bonebrake, MacDonald, Professional Bldg. 65806
Broaddus, Loren, 1550 E. Sunshine Blvd. 65804
Brown, Alex L., 1636 S. Glenstone St. 65804
Brown, James T., 1653 S. National St. 65804
Brown, Lyman D., 311 College St. 65806
Burkey, Jordan W., Professional Bldg. 65806
Busiek, Erwin F., Professional Bldg. 65806
Busiek, Paul J., Professional Bldg. 65806
Busiek, Urban J., Professional Bldg. 65806
Callaway, Guy D., 1155 S. Delaware St. 65804
Callaway, Guy D., Jr., 1211 S. Glenstone St. 65802
Christy, Raymond A., Jr., 1211 S. Glenstone St. 65802
Clarke, Michael J., 1636 S. Glenstone St. 65804
Clary, William F., 1636 S. Glenstone St. 65804
Clawson, James W., Professional Bldg. 65806
Clayton, Edgar L., Professional Bldg. 64806
Cochran, Thomas E., Jr., 2423 Brentwood Blvd. 65804
Coller, Frederick C., 2433 Marlan St. 65802
Conrad, Raymond C., 609 Cherry St. 65806
Cook, James R., 2033 S. Delaware St., 65804
Crawford, Oral B., Professional Bldg. 65806
Cunningham, Darral D., 1715 Boonville Ave. 65803
Dietz, M. Wendell, Burge Protestant Hosp. 65803
Dillard, Erin M., Professional Bldg. 65806
Dills, Joseph N., 1715 Boonville Ave., 65803
Dolan, Daniel L., Professional Bldg. 65806
Duncan, Robert D., 1534 E. Sunshine Blvd. 65804
Eastwood, Robert A., 3043 Wilshire 65804
Elkins, Ronald F., Professional Bldg. 65806
Ellis, Francis J., Professional Bldg. 65806
Ellis, Harry L., Professional Bldg. 65806
Evans, Ezra L., Jr., 1260 E. Catolpa St. 65806
Farthing, Fred R., 1234 E. Walnut St. 65802
Farthing, Gene W., 1636 S. Glenstone St. 65804
Ferguson, John P., Jr., 1219 S. Clay St. 65804
Ferrell, Thomas E., Jr., 1534 E. Sunshine Blvd. 65804
Fitch, C. H. Max, 1711 Boonville Ave. 65803
Focht, Ralph H., Stafford 65757
Francis, William C., 600 S. Glenstone St. 65802
Gay, George R., 1924 Sunset Dr. 65804
German, Walter A., Jr., 1211 S. Glenstone St. 65802
Giddings, Frank C., Burge Protestant Hosp. 65803
Glenn, Elmer E., Cedar Point Rd., Forsyth 65653
Glynn, Robert R., 1211 S. Glenstone St. 65802
Gorelick, David F., Professional Bldg. 65806
Gose, Don F., 1550 E. Sunshine Blvd. 65804
Hahn, Andrew L., Professional Bldg. 65806
Hall, David W., 2122 Wayland Dr. 65804
Hall, Durward G., 2442 S. Fremont St. 65804
Hanan, Ernest B., 724 E. Kingsbury 65804
Hanss, Armand W., 600 S. Glenstone St. 65802
Harvey, Harold D., 1531 E. Sunshine Blvd. 65804
H'Doubler, Charles E., Professional Bldg. 65806
H'Doubler, Francis T., Jr., Professional Bldg. 65806
H'Doubler, Peter B., 430 South Ave. 65806
Hogeboom, George W., P. O. Box 1017 Delray Beach, Fla.
Holland, Robert D., 2623 Luster 65804
Hollis, Richard W., Professional Bldg. 65806
Holms, Daniel E., 600 S. Glenstone St. 65802
Holmes, David R., 1636 S. Glenstone St. 65804
Hoover, H. Lee, Jr., 1330 E. Walnut St. 65802
Horst, Otto C., Medical Arts Bldg. 65806
Horton, James D., Professional Bldg. 65806
Hubbell, Ira G., 1630 N. Jefferson St. 65803
Hulstra, Johannes F. W., 1211 S. Glenstone St. 65802
Ivy, Henry B., 600 S. Glenstone St. 65802
Jameson, James E., Professional Bldg. 65806
Johnson, George A., 2349 Edgewood 65804
Johnson, George L., Martin Army Hospital, Ft. Benning, Ga.
Johnson, Warford B., Professional Bldg. 65806
Johnson, William F., Pdofessional Bldg.
Johnston, Joseph L., 2855 Southern Hills Blvd. 65804
Jorel, Louis E., 1500 E. Sunshine Blvd. 65804
Key, James S., Professional Bldg. 65806
Klingner, George M., 1630 N. Jefferson St. 65803
Knabb, Arthur D., 1630 N. Jefferson St. 65803
Knabb, Harris, 1630 N. Jefferson St. 65803
Knabb, Henry F., Jr., 1630 N. Jefferson St. 65803
Knabb, Kenneth E., 1630 N. Jefferson St. 65803
Kolze, Vernon W., 600 S. Glenstone 65802
Langston, Walter R., Professional Bldg. 65806
Leidinger, Karl J., Republic 65738
Lemmon, George B., 1101 E. Walnut St. 65802
Lemmon, G. Bruce, Jr., Professional Bldg. 65806
Leslie, James F., 1715 Boonville Ave. 65803
Lewis, Noel R., 1423 N. Jefferson Ave. 65803
Litton, Lyle D., Burge Protestant Hosp. 65803
Lockhart, Charles E., Professional Bldg. 65806
Lorenc, Ernest, Professional Bldg. 65806
Lowe, Horace A., Jr., Medical Arts Bldg. 65806
Lurie, Harold H., 600 S. Glenstone St. 65802
McAlhany, Howard J., 609 Cherry St. 65806
McKinsey, John J., Professional Bldg. 65806
Maddux, William P., Professional Bldg. 65806
Maher, Robert W., Professional Bldg. 65806
Maple, Francis M., 1211 S. Glenstone St. 65802
Menchetti, Don E., 1630 N. Jefferson Ave. 65803
Meyer, Claude B., Route 1, Nixa 65714
Morton, Paul C., 1508 E. Stanford 65804
Moseley, F. Thomas, 2837 Lomita Ct. 65804
Napper, Marvin L., Professional Bldg. 65806
Neu, Leo T., Jr., 3008 Carlisle Circle 65804
Overend, Don S., 1211 S. Glenstone 65802
Palcheff, Chris L., 1636 S. Glenstone St. 65804
Park, William I., Jr., Professional Bldg. 65806
Penninger, William H., 600 S. Glenstone St. 65802
Peterson, Stanley S., 1211 S. Glenstone St. 65802
Podrecca, Guido I., Professional Bldg. 65806
Polk, John W., 609 Cherry St. 65806
Powell, Edwin M., Professional Bldg. 65806
Prater, Bill G., Professional Bldg. 65806
Pruett, Paul L., Professional Bldg. 65806
Rainwater, Elmer H., Professional Bldg. 65806
Rigney, Levi M., Woodruff Bldg. 65806
Rosen, Max, Professional Bldg. 65806
Russell, Earl D., 1503 S. Glenstone St. 65804
Sala, Jose M., 1423 N. Jefferson Ave. 65803
Scanlon, Robert C., 1711 Boonville St. 65803
Schaeffer, Edward M., 600 S. Glenstone St. 65802
Schroff, Carle H., 1630 N. Jefferson Ave. 65803
Schwartz, Eugene J., Professional Bldg. 65806
Schweitzer, Fred C., Jr., Woodruff Bldg. 65806
Sewell, Walter S., 2707 S. Marlan St. 65804
Siceluff, Joseph G., 609 Cherry St. 65806
Silsby, Don H., 719 S. Dollison St. 65804
Silsby, Don J., Professional Bldg. 65806
Silsby, Harry D., Professional Bldg. 65806
Simpson, Albert P., 318 St. Louis St. 65806
Simpson, Emerson L., 1630 N. Jefferson Ave. 65803
Smith, C. Souter, 620 St. Louis St. 65806
Snead, William H., Jr., Professional Bldg. 65806
Stewart, Robert B., 600 S. Glenstone St. 65802
Stewart, R. Wendell, Professional Bldg. 65806
Stufflebam, Robert E., 2248 Mirabeau St. 65804
Sturtevant, Harwood N., Professional Bldg. 65806
Sundstrom, Frank D., 1211 S. Glenstone St. 65806
Tarrasch, Ernest L., 1636 S. Glenstone St. 65804
Taylor, William E., Southwest Missouri State College
Thomasson, David D., 600 S. Glenstone St. 65802
Tillman, Walter W., Jr., Professional Bldg. 65806
Tombridge, Thomas L., Professional Bldg. 65806
Trotter, W. Yates, Professional Bldg. 65806
Tsang, John L. K., 1636 S. Glenstone St. 65804
Turner, Glenn O., Professional Bldg. 65806
Vail, A. Denton, Professional Bldg. 65806
Vensel, Lee H., 600 S. Glenstone St. 65802
Waddell, Kenneth E., 1211 S. Glenstone St. 65802
Wakeman, J. Newton, 600 S. Glenstone St. 65802
Walker, William M., Professional Bldg. 65806
Warres, Herbert L., 2614 Englewood Rd. 65804
Waterfield, Jim R., 1211 S. Glenstone St. 65802
Webb, Leslie R., Jr., Professional Bldg. 65806
White, R. Ned., Professional Bldg. 65806
Williams, John W., 600 S. Glenstone St. 65802
Williams, John W., Jr., 1227 Roanoke St. 65804
Wilson, Roy E., 1211 S. Glenstone St. 65802
Wise, Gordon F., Professional Bldg. 65806
Wittmer, Samuel C., 600 S. Glenstone St. 65802

Wood, William W., 1211 S. Glenstone St. 65802
Wooldridge, Wilfred E., Professional Bldg. 65806
Yancey, Daniel L., 1211 S. Glenstone St. 65802
Zahn, Robert L., Professional Bldg. 65806

GRUNDY COUNTY
(Grand River Medical Society)

HARRISON COUNTY
(Grand River Medical Society)

HENRY COUNTY MEDICAL SOCIETY

Bradshaw, William D., Clinton 64735
Brock, Bernard, Windsor 65360
Hollingsworth, Ray S., Clinton 64735
Hughes, Shelby B., Clinton 64735
Jones, Edna M., Clinton 64735
King, Richard H., Clinton 64735
Smith, James O., Clinton 64735
Smith, William J., Windsor 65360
Thurber, Claude M., Windsor 65360
Walker, George S., Clinton 64735
Walker, Hugh B., Clinton 64735
Woltzen, Simon W., Clinton 64735

HICKORY COUNTY
(Dallas-Hickory-Polk County Medical Society)

HOLT COUNTY
(Northwest Missouri Medical Society)

HOWARD COUNTY MEDICAL SOCIETY

Bloom, W. A., Fayette 65248
Dean, Francis D., Fayette 65248
Leech, Maurice P., Fayette 65248
Marshall, William G., Glasgow 65254
Shaw, William J., Fayette 65248
Shaw, William J., Jr., Fayette 65248
Wells, Donald E., 5828 Grand, Kansas City 64113

HOWELL COUNTY
(South Central Counties Medical Society)

IRON COUNTY
(Mineral Area County Medical Society)

JACKSON COUNTY MEDICAL SOCIETY
(Kansas City)

Aaron, George A., 10901 Winner Rd., Independence 64052
Adelman, Arthur, 333 W. Meyer Blvd. 64113
Adler, Federico, 701 E. 63rd St. 64110
Agee, Loren G., 5801 E. 113th St. 64134
Ahlefeld, Charles B., One Penn Valley Park 64141
Aisenstadt, E. Albert, 333 W. Meyer Blvd. 64113
Aks, Daniel, 751 E. 63rd St. 64110
Alberg, Marvin R., One Penn Valley Park 64141
Allebach, H. K., Meyer Blvd. at Prospect 64132
Allen, Robert E., 4320 Wornall Rd. 64111
Allen, William B., 4620 Nichols Parkway 64112
Alsop, Webb S., Jr., 3604 W. 53rd St., Shawnee Mission, Kan. 66205
Altomare, Edward P., 2610 E. 63rd St. 64130
Altringer, Arthur N., 5630 Mission Dr., Shawnee Mission, Kan. 66208
Ammatelli, Francis J., 7546 Troost St. 64131
Anderson, Raymond B., 1710 Independence Ave. 64106
Anderson, Richard W., 1001 Romany Rd. 64113
Andrews, Berneil W., 4320 Wornall Rd. 64111
Andrus, Bailey C., 4320 Wornall Rd. 64111
Angles, Luis E., 701 E. 63rd St. 64110
Arms, Arnold V., 4320 Wornall Rd. 64111
Arnold, John D., 24th & Cherry Sts. 64108
Aschman, Theodore H., Plaza Time Bldg. 64112
Asher, A. Graham, 4706 Broadway 64112
Atcheson, Bellefield, 11123 Locust St. 64131
Atwell, Floyd C., 4620 Nichols Parkway 64112
Aull, John, 6544 Summit 64113
Averill, Keith H., 2316 E. Meyer Blvd. 64132
Bachmann, Paul L., 1212 W. Truman Rd. Independence 64050
Baer, Alvin J., 751 E. 63rd St. 64110
Baker, Philip J., 11440 E. 47th St. 64133
Ball, James E., 118 S. Mission Dr., San Gabriel, Calif. 91776
Ballard, V. Bryce, 4320 Wornall Rd. 64111
Baer, Chester I., Jr., 10501 E. 78th Terr. 64138
Barelli, Pat A., 4177 Broadway 64111
Barloon, James H., 9406 E. 63rd St. 64133
Bernard, John L., Jr., 4312 Nichols Parkway 64111
Barnes, Robert H., 6714 Kenwood Ave. 64131
Barnett, Gordon P., 751 E. 63rd St. 64110
Barry, Gerald W., 1948 E. Parvin Rd. 64116
Barry, William B., 4320 Wornall Rd. 64111
Basantz, Fernando V., 3419 W. 77th Terr., Prairie Village, Kan. 66208
Bass, Walter R., 9503 E. 63rd St. 64133
Baum, Frank E., 701 E. 63rd St. 64110
Baumhardt, Edward E., 4320 Wornall Rd. 64111
Bay, Merrill R., 1808 W. Main St., Blue Springs 64015
Beck, Calvin E., 4320 Wornall Rd. 64111
Becker, Richard R., 5622 Holmes St. 64110
Becker, Rolfe A., 751 E. 63rd St. 64110
Bell, William F., 615 W. 3rd St., Lee's Summit 64063
Bennett, James D., 409 E. 63rd St. 64110
Benoit, Hector W., Jr., 4620 Nichols Parkway 64112
Berenson, Sheldon E., 4620 Nichols Parkway 64112
Bergmann, Victor H., 105 Ward Parkway 64112
Bernreiter Michael, 1246 W. 63rd St. 64113
Berry, Guy N., 4320 Wornall Rd. 64111
Berry, Maxwell G., 4320 Wornall Rd. 64111
Biggs, Alfred D., 6400 Prospect Ave. 64132
Biggs, Harry L., 63rd & Evanston 64133
Bikales, Victor W., 751 E. 63rd St. 64110
Bills, Marvin L., Plaza Time Bldg. 64112
Black, Don A., 6400 Prospect Ave. 64132
Black, Eugene C., Professional Bldg. 64106
Blim, Richard D., 4320 Wornall Rd. 64111
Bordy, Marvin D., 701 E. 63rd St. 64110
Borenstine, Joseph, 7307 Holmes St. 64131
Botwin, Arnold E., 701 E. 63rd St. 64110
Boughnou, Harvey P., 315 Nichols Rd. 64112
Bourke, Timothy S., 4620 Nichols Pkwy. 64112
Boutros, Amin, 3112 Linwood Blvd. 64128
Bowser, John F., 411 Nichols Rd. 64112
Boyd, George K., 5111 Independence Ave. 64124
Braby, Howard H., 1612 W. Truman Rd., Independence 64050
Bradford, John F., 4320 Wornall Rd. 64111
Brady, Arthur M., 3039 Brooklyn 64130
Brams, Jack B., 751 E. 63rd St. 64110
Braverman, Abe E., 701 E. 63rd 64110
Brewster, Charlotte M., 4320 Wornall Rd. 64111
Bridgens, James G., 2510 E. Linwood Blvd. 64128
Brown, Adrian J., 12 E. 63rd St. 64113
Brown, Elwyn S., 1710 Independence Ave. 64106
Brown, Irwin S., Plaza Time Bldg., 64112
Brown, Robert S., 4706 Broadway 64112
Brownell, William M., 3600 Troost Ave. 64109
Broyles, Glen H., 6140 Raytown Rd. 64133
Brumm, Lawrence W., 6400 Prospect 64132
Bruner, Robert E., 912 Valentine Rd. 64111
Brust, Carl H., 6114 Howe Dr., Mission, Kan. 66205
Bryan, William H., Jr., 3939 Prospect Ave. 64130
Buckingham, William W., 1103 Grand Ave. 64106
Buckner, Robert C., Plaza Parkway Bldg. 64112
Budke, Harold A., 306 E. 12th St. 64106
Buhler, Victor B., 5212 Bellview Ave. 64112
Buie, Bruce R., 5801 E. 113th St. 64134
Bunting, Williston P., 305 W. 43rd St. 64111
Burns, Beryl I., 1510 Bass Ave., Columbia 65201
Butcher, Robert W., 7924 Paseo Blvd. 64132
Butterworth, Nelson S., 4706 Broadway, 64112
Byers, Philip L., 4320 Wornall Rd. 64111
Caffrey, Raymond J., 1314 W. Red Bridge 64114
Caldwell, John K., Argyle Bldg. 64106
Calovich, Emery R., 4620 Nichols Parkway 64112
Campbell, Frederick B., 315 Nichols Rd. 64112
Campbell, John G., 315 Nichols Rd. 64112
Capps, Eugene C., 3001 W. 48th Terr., Shawnee Mission, Kan.
Carlson, Hjalmar E., Professional Bldg. 64106
Carmichael, Francis A., Jr., 4320 Wornall Rd. 64111
Carrier, Edson C., 315 Nichols Rd. 64112
Caruso, Alfred A., 4526 Paseo Blvd. 64110
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Casebolt, Buford T., 4000 Baltimore Ave. 64111
Castelaw, Rush E., 3731 Locust St. 64109
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Chandler, Robert A., 4177 Broadway 64111
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Cobb, James R., 6741 Prospect Ave. 64132
Coburn, Donald F., 6400 Prospect Ave. 64132
Cochrane, Joseph J., 4706 Broadway 64112
Cockerell, Sanford F., 11200 Winner Rd., Independence 64052
Coffey, Ralph R., Professional Bldg. 64106
Coffin, Theodore A., Professional Bldg. 64106
Cohen, Harry K., 751 E. 63rd St. 64110
Cohen, Hilliard, 1291 W. 72nd Terr. 64114
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Colglazier, Mary C., 411 Nichols Rd. 64112
Colom, George A., 4643 Wyandotte St. 64112
Connell, Evan S., Commerce Bldg. 64106
Cooper, Charles S., Professional Bldg. 64106
Cooper, John H., Argyle Bldg. 64106
Cooper, Leo F., 4620 Nichols Parkway 64112
Cortner, Mary C., 701 E. 63rd St. 64110
Counsell, Chester M., 708 W. 17th St. 64108
Courter, Larry P., 6400 Prospect Ave. 64132
Cowherd, Joseph B., 634 W. 69th Terr. 64113
Cox, Kenneth E., 4320 Wornall Rd. 64111
Cox, William L., 1465 Spruce Ave., Liberty 64068
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Crocker, Albert M., 2202 E. 31st St. 64109
Crockett, James E., 4320 Wornall Rd. 64111
Crow, Martin L., 4177 Broadway 64111
Culbertson, William F., 1253 Huntington Rd. 64113
Curran, Desmond, Federal Reserve Bank Bldg. 64106
Curts, Calvin J., 4706 Broadway 64112
Cutcliff, Daniel J., 415 E. 66th St. 64131
Dalton, Timothy T., 11841 Oak St. 64114
Dann, David S., 701 E. 63rd St. 64110
Davis, Donald R., 4320 Wornall Rd. 64111
Davis, Herbert V., 4620 Nichols Parkway 64112
Davis, Jack M., 9406 E. 63rd St. 64133
Davis, John J., 9011 Delmar Blvd., Overland Park, Kan. 66207
Davis, Kenneth A., 209 W. 47th St. 64112
Davis, Richard E., 4643 Wyandotte St. 64112
Davis, Robert C., 659 W. 61st Terr. 64113
Decker, Albert I., 2403 W. 70th Terr., Shawnee Mission, Kan. 66208
DeMaria, Peter F., 8125 E. Gregory Blvd. 64133

DeMott, John D., 411 Nichols Rd. 64112
DeMotte, John A., 315 Nichols Rd. 64112
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Devins, George S., 4949 Rockhill Rd. 64110
Diveley, Rex L., 4312 Nichols Parkway 64111
Dixon, Vewiser L., 2204 E. 18th St. 64127
Dlabal, Luke J., 1210 Ash Ave., Independence 64052
Doane, William L., Grandview 64030
Dodge, Mark, 4320 Wornall Rd. 64111
Dodge, Milton, 2005 W. 71st Terr., Shawnee Mission, Kan. 66208
Doering, Robert W., 6400 Prospect Ave. 64132
Dolezal, Joseph B., Bryant Bldg. 64106
Dorsch, Ervin H., 10901 Winner Rd. Independence 64052
Downey, James W., 425 E. 63rd St. 64110
Drake, Roy F., Professional Bldg. 64106
Draney, Thomas E., 425 E. 63rd St. 64110
Drisko, Robert M., 4620 Nichols Parkway 64112
Drowns, Bruce V., 4320 Wornall Rd. 64111
Duer, Mildred C., 310 W. 47th St. 64112
Duncan, William H., 911 Main St. 64105
Dunleavy, James D., 4620 Nichols Parkway 64112
Durnell, Monaford D., 615 W. Third St., Lee's Summit 64063
Dwyer, Frank X., 4620 Nichols Parkway 64112
Dwyer, Hugh L., 420 E. Armour Blvd., 64109
Eanet, Morton P., 4825 Troost Ave 64110
Edde, Clifford G., Argyle Bldg. 64106
Edmonds, Devilla D., 9009 Mission Rd., Leawood, Kan. 66206
Eisenmann, Gustave, 751 E. 63rd St. 64110
Elam, James O., 24th & Cherry Sts. 64108
Eldridge, Charles J., 409 E. 63rd St. 64110
Elias, David J., 9306 E. New 40 Highway, Independence 64050
Elliott, James R., 1080 Busch Garden Court, Pasadena, Calif. 91105
Elliott, Raymond G., Bryant Bldg. 64106
Elliott, Wade E., 710 W. 12th St. 64105
Ellis, Elmer F., 1326 Lake Dr. 64108
Elser, Otto H., 10901 Winner Rd., Independence 64052
Engel, Lawrence P., 315 Nichols Rd. 64112
Engelking, David F., 9507 E. 63rd St. 64133
Engelmann, Calvin E., 7721 State Line 64114
Eshelman, Albert D., 9306 E. New 40 Highway, Independence 64050
Eubank, David F., 8830 E. 61st St. 64133
Eubank, Dillard M., 9406 E. 63rd St. 64133
Eubank, William R., 7546 Troost Ave. 64131
Eubank, William Y., 6400 Prospect 64132
Fall, Gordon F. F., 5801 E. 113th St., Hickman Mills 64134
Farley, Claude C., 6400 Prospect 64132
Farney, Jacob P., 2721 W. 69th St., Shawnee Mission, Kan. 66208
Farnsworth, Jesse J., 1103 Grand Ave. 64106
Feierabend, Frank L., 2727 Main St. 64108
Feist, George V., 1103 W. 86th Terr. 64114
Ferguson, Donald S., 2012 E. 24th St. 64127
Ferguson, James T., Bryant Bldg. 64106
Ferris, Carl R., 6400 Prospect 64132
Finkle, Robert H., 10901 Winner Rd., Independence 64052
Fitzgerald, Robert H., 10901 Winner Rd., Independence 64052
Flanders, Virgil E., Professional Bldg. 64106
Flatley, John A., 9406 E. 63rd St. 64133
Fleming, Royall B., 1433 E. 19th St. 64108
Florian, Albert J., Tuscon House 1208, Tucson, Ariz.
Flynn, James M., Meyer & Prospect 64132
Folck, William P., 911 Main St. 64105
Forman, Louis H., 4320 Wornall Rd. 64111
Forsythe, Robert W., 4320 Wornall Rd. 64111
Fouts, Dallas B., Sr., 13101 E. 43rd St., Independence 64050
Fowler, Fred D., 4320 Wornall Rd. 64111
Fowler, James W., 1103 Grand Ave. 64106
Franklin, Curtis U., 2415 Park Ave. 64127
Fredeen, Robert C., 411 Nichols Rd. 64112
Freedman, Aaron D., 4949 Rockhill Rd. 64110
Frick, John P., Professional Bldg. 64106
Friedman, Morris L., 701 E. 63rd St. 64110
Fritzlen, Thomas J., 6848 Locust St. 64131
Fuhrman, Donald L., 4320 Wornall Rd. 64111
Fulton, Albert E., 310 W. 47th St. 64112
Fury, Tex E., 642 Huntington Rd. 64113
Gainey, Harold L., 4320 Wornall Rd. 64111
Galbreath, Ashford M., Professional Bldg. 64106
Ganley, William C., Argyle Bldg. 64106
Gard, Raymond F., 10901 Winner Rd., Independence 64052
Garrison, Roy F., 6400 Prospect 64132
Gaskins, John H., 4320 Wornall Rd. 64111
Geha, Braham J., 7546 Troost Ave. 64131
Geiger, William A., Jr., 3001 Wyandotte St. 64108
Gempel, Paul A., 315 Nichols Rd. 64112
Gentry, Enoch N., Jr., Telephone Bldg. 64106
Gibson, David M., St. Luke's Hosp. 64111
Gilkey, Harry M., Professional Bldg. 64106
Ginardi, Donald E., 4643 Wyandotte St. 64112
Ginsberg, Norman A., 751 E. 63rd St. 64110
Gist, William W., 4620 Nichols Parkway 64112
Glasscock, Ernest L., 411 Nichols Rd. 64112
Goldman, Stanley L., 7546 Troost Ave. 64131
Goldsich, Edward, 209 W. 47th St. 64112
Goldstein, Marvin F., 85th Evacuation Hosp, APO San Francisco Calif. 96238
Goodman, Leroy, 751 E. 63rd St. 64110
Goodson, William H., Jr., 1103 Grand Ave. 64106
Goolsbee, Robert L., 6438 Sagamore St., Shawnee Mission, Kan. 66208
Gordon, Morris P., 701 E. 63rd St. 64110
Gorrell, Ned B., 14101 S. 71 Highway, Grandview 64030
Gottsch, Joseph C., 7907 Granada, Prairie Village, Kan. 66208
Grabske, Charles F., 10901 Winner Rd., Independence 54052
Grabske, Charles F., Jr., 10901 Winner Rd., Independence 64052
Graham, James W., 1815 E. 63rd St. 64130
Graham, Wallace H., 1815 E. 63rd St. 64130
Grauerholz, James W., 4203 Mercier St. 64111
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Green, Stanley L., 10901 Winner Rd., Independence 64052
Greene, W. Wallace, 4620 Nichols Parkway 64112
Gregory, Ralph W., 4620 Nichols Parkway 64112
Griffith, John A., Jr., 4320 Wornall Rd. 64111
Growdon, John A., Professional Bldg. 64106
Guastello, Mario J., 4124 W. 95th St., Shawnee Mission, Kan. 66207
Guffey, Don C., 1008 Valentine Rd. 64111
Gullett, Charles C., 1735 Baltimore Blvd. 64108
Gundle, Sigmund, 751 E. 63rd St. 64110
Gunn, Richard W., Professional Bldg. 64106
Habib, Henry N., 2300 Holmes St. 64108
Hagar, David L., 9406 E. 63rd St. 64133
Haggan, Margaret E., 7809 E. 55th St. N. 64119
Haight, John N., 3401 E. 12th Blvd. 64127
Haith, Edward E., 751 E. 63rd St. 64110
Haith, Walter F., 2701 E. 31st St. 64128
Hall, Ralph R., St. Luke's Hosp. 64111
Hall, Thomas B., 4550 Warwick 64111
Halperin, Phillip H., 751 E. 63rd St. 64110
Hamel, Herbert A., 6306 Morningside Dr. 64113
Hamill, Robert W., 4320 Wornall Rd. 64111
Hanes, Lee D., 446 W. 69th St. 64113
Hanes, Robert L., 7721 State Line 64114
Hannas, Ralston R., Jr., Volker Blvd. at Brookside 64112
Hardacre, Ruth A., 3300 Charlotte St. 64109
Hardy, Henry M., 6606 Overhill Rd., Shawnee Mission, Kan. 66208
Hardy, John W., Professional Bldg. 64106
Harless, Morris S., 4320 Wornall Rd. 64111
Harlow, Lloyd M., 2462 Brooklyn St. 64127
Harned, Bert W., 2826 Main St. 64108
Harrin, William R., 411 Nichols Rd. 64112
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Hartenbower, Carey A., 4400 Nichols Parkway 64111
Hartwig, Frederick H., 6400 Prospect 64132
Hartwig, Raymond W., 3110 Tomahawk, Shawnee Mission, Kan. 66208
Hash, Helen E., 807 W. 69th St. 64113
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Haynes, Solon E., 2727 Main St. 64108
Hazen, Robert M., 6400 Prospect 64132
Heilman, Edward J., 1103 Grand Ave. 64106
Hellerstein, Stanley, 1710 Independence Ave. 64106
Helman, Richard G., 7721 State Line 64114
Henry, Clarke L., 4320 Wornall Rd., 64111
Herrman, George V., 4320 Wornall Rd. 64111
Hibbard, Blaine Z., 4320 Wornall Rd. 64111
Hickerson, William H., 604 W. Maple Ave., Independence 64050
Higgins, Robert S., 1001 W. 55th St. 64112
Hill, Jack H., Trinity Lutheran Hosp. 64108
Hink, Frederick W., 10229 Independence Rd., Independence 64054
Hirsch, Joe E., 4643 Wyandotte St. 64112
Hoadley, William D., 6400 Prospect 64132
Hodgson, Frank H., 4301 Main St. 64111
Hoeper, Samuel D., 12921 Grandview Rd., Grandview 64030
Hoffman, Jacob S., 751 E. 63rd St. 64110
Hoffmann, R. Lee, Professional Bldg. 64106
Hogan, Daniel F., Kansas State University, Manhattan, Kan. 66504
Hogue, Frank S., 4320 Wornall Rd. 64111
Hollweg, Kenneth C., 4320 Wornall Rd. 64111
Holt, Waldo S., 4620 Nichols Parkway 64112
Holton, Edward B., 10901 Winner Rd., Independence 64052
Hook, Waller C., 6400 Prospect 64132
Hopkins, James P., 701 E. 63rd St. 64110
Hornstra, Robijn K., 2200 McCoy St. 64108
Hughes, Gerald E., 6400 Prospect 64132
Hungate, Carroll P., Professional Bldg. 64106
Hunt, Claude J., 6400 Prospect 64132
Hunt, Thomas R., 6400 Prospect 64132
Hunter, Martin P., 4706 Broadway 64112
Hunzicker, Warren J., 3520 Broadway, Box 139, 64141
Hurwitt, Frank, Park East Hotel 64106
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Irwig, Fred, Professional Bldg. 64106
Jackson, Haywood R., 3317 E. 43rd St. 64130
Jackson, William R., 1102 Grand Ave. 64106
Jacob, Walter P., 701 E. 63rd St. 64110
Jacobs, Morton, 6314 Brookside Plaza 64113
Jacobs, Walter H., 751 E. 63rd St. 64110
James, Otis E., Jr., 6306 Morningside Dr. 64113
Jansen, Robert, 101 E. 63rd St. 64113
Jarvis, James A., 600 W. 57th St. 64113
Jenab, Morteza, 751 E. 63rd St. 64110
Jennett, J. Harvey, Professional Bldg. 64106
Johnson, C. Laurence, Professional Bldg. 64106
Johnson, James S., 4301 Cleveland 64130
Johnson, Joseph E., 5801 E. 113th St. 64134
Johnson, Morris B., 1102 130th St. Grandview 64030
Johnson, Thomas M., 4320 Wornall Rd. 64111
Johnson, William A., 2200 Prospect 64127
Johnstone, Paul N., Bryant Bldg. 64106
Jonas, Harry S., Jr., 2116 S. Sterling Ave. Independence 64052
Jones, Gale O., 2316 E. Meyer Blvd. 64132
Jones, Marion E., 2462 Brooklyn St. 64127
Jones, T. Reid, 411 Nichols Rd. 64112
Justus, John B., Plaza Parkway Bldg. 64112
Kahn, Marvin, 751 E. 63rd St. 64110
Kanarek, Joseph, 751 E. 63rd St. 64110

Kanter, Arnold N., 30 W. Pershing St. 64108
Kantor, Julius M., 701 E. 63rd St. 64110
Kantor, Samuel, 751 E. 63rd St. 64110
Kartus, Irving, 6155 Oak St. 64113
Katz, Milton, 4620 Nichols Parkway 64112
Kaufmann, Herbert H., 701 E. 63rd St. 64110
Kaul, Philip G., 4320 Wornall Rd., 64111
Kay, Billy F., 615 W. 3rd St., Lee's Summit 64063
Keairnes, Harold W., 3800 S. Woodland St., Independence 64052
Kealhofer, George C., 6627 Prospect Ave. 64132
Keeler, James E., 4620 Nichols Parkway 64112
Kelly, Eugene H., The Baptist Home, Ironton 63650
Kendall, Charles A., 10901 Winner Rd., Independence 64052
Kendall, Forest H., Andrews AFB, Washington, D. C.
Kennard, George K., 4320 Wornall Rd. 64111
Kent, Bela K., 701 E. 63rd St. 64110
Kent, Clifford F., Professional Bldg. 64106
Kerncdle, Jefferson D., Box 2778 64142
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Ketterman, Grace H., 9231 Belinder, Shawnee Mission, Kan. 66206
Ketterman, Herbert L., 5801 E. 113th St. 64134
Kettner, Edward G., Professional Bldg. 64106
Kienberger, Paul A., 11605 E. 35th Terr., Independence 64052
Kiene, Richard H., 5835 High Dr., Shawnee Mission, Kan. 66208
Kimball, Merritt H., 610 E. 36th St., 64109
King, J. Tenbrook, 4320 Wornall Rd. 64111
King, Walter R., Professional Bldg. 64106
Kingsbury, Helen, 6415 Sagamore Rd., Shawnee Mission, Kan. 66208
Kirk, Robert V., 2316 E. Meyer Blvd. 64132
Kiser, David M., 920 W. 47th St. 64112
Kitchen, William M., 7301 Mission Rd., Shawnee Mission, Kan. 66208
Klein, Edward H., Plaza Medical Bldg. 64112
Klepinger, Dayton P., 826 Warwick Ct., Neosho 64850
Knight, John S., 305 W. 43rd St. 64111
Knight, Lyle B., 615 W. 3rd St., Lee's Summit 64063
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Korth, William M., Professional Bldg. 64106
Kovac, Albert P., Argyle Bldg. 64106
Kraft, Jacob, 701 E. 63rd St. 64110
Kranson, Seymour J., 11200 Winner Rd., Independence 64052
Kuhn, William F., II, 6247 Brookside Blvd. 64113
Kyger, Fred B., 637 W. 67th Terr. 64113
Kyger, John E., 3612 Blue Ridge, Independence 64052
Kyner, Thomas A., Wirthman Bldg. 64109
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Lamar, Robert F., Professional Bldg. 64106
Lambert, L. Marian 10928 Hillcrest Rd. 64134
Lambie, Rodger W., 701 E. 63rd St. 64110
Landis, George K., Professional Bldg. 64106
Lanning, Richard J., 4320 Wornall Rd. 64111
Lapi, Angelo, 2012 Stratford Rd., Shawnee Mission, Kan. 66208
Lapp, Harry C., 751 E. 63rd St. 64110
Latham, Raymond W., 4620 Nichols Parkway 64112
Lauer, Daniel J., 4320 Wornall Rd. 64111
Laurenzana, Frank P., 428 S. White Ave. 64123
Layton, Ira C., 6400 Prospect 64132
Lee, George C., P. O. Box 1065 64141
Lee, Henry A., 7546 Troost St. 64131
Lehner, Richard L., Professional Bldg. 64106
Leifer, William W., 701 E. 63rd St. 64110
Leitch, Cecil G., 808 S. 15th St., Blue Springs 64015
Leitch, David A., 24th & Cherry 64108
Leitz, Frank B., Professional Bldg. 64106
Lentz, Clark H., BMA Tower 64141
Leo, William A., 6400 Prospect 64132
Levey, Harry B., 701 E. 63rd St. 64110
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Lichtor, Alexander, 751 E. 63rd St. 64110
Lichtor, Joseph M., 751 E. 63rd St. 64110
Lieberman, B. Albert, 4620 Nichols Parkway 64112
Lilly, Terry E., Sr., 1815 E. 63rd St. 64130
Lilly, Terry E., Jr., 1815 E. 63rd St. 64130
Lindquist, Carl N., 106 W. 14th St. 64105
Link, Vance E., 1201 W. 36th St., Independence 64050
Linville, Howard E., 4620 Nichols Parkway 64112
Lloyd, Ivan E., 1816 Rankin, Independence 64050
Lohrentz, Lois H., 2800 W. 50th Terr., Shawnee Mission, Kan. 66208
Long, R. Stacy, 6400 Prospect 64132
Loutzenhiser, James K., 4643 Wyandotte St. 64112
Lowell, Paul, 4742 Liberty St. 64112
Lowrey, Ford J., 106 W. 96th St. 64114
Lyddon, Harold F., Jr., 75th Troost 64131
Lytton, George J., 411 Nichols Rd. 64112
McCalla, John P., 1403 E. 76th Terr. 64131
McCanse, Andrew, 4320 Wornall Rd. 64111
McCarthy, William F., 140a Lake Topwingo, Blue Springs 64015
McClanahan, Robert C., Professional Bldg. 64106
McConchie, James E., 10901 Winner Rd. Independence 64052
McCoy, Frederick J., 4177 Broadway 64111
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McCunniff, William B., Argyle Bldg. 64106
McDonald, Victor G., 1710 Independence Ave. 64106
McDonnell, John F., 4320 Wornall Rd. 64111
McEachen, William H., 4320 Wornall Rd. 64111
McFarland, H. Richard, 4320 Wornall Rd. 64111
McFarland, M. Donald, 4320 Wornall Rd. 64111
McGannon, Paul T., 6400 Prospect 64132
McGuire, Thomas H., 429 W. 58th St. 64113
McIntyre, John D., 4516 Cambridge Ct. 64110
McKee, Joseph W., 4320 Wornall Rd. 64111
McKee, Wallace P., 4320 Wornall Rd. 64111
McKnelly, William V., Jr., 4801 E. Linwood Blvd. 64128
McLeod, John, 116 W. 47th St. 64112
McMillan, Thomas E., 6400 Prospect 64132
McNutt, Theodore L., 5801 E. 113th St. 64134
McVay, James R., V.F.W. Bldg. 64111
McVay, James R., Jr., V.F.W. Bldg. 64111
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Mantell, Harriet B., 634 W. 67th Terr. 64113
Marks, Mark M., 751 E. 63rd St. 64110
Marsh, Alice, Pleasant Hill 64080
Marshall, Cameron F., Plaza Theatre Bldg. 64112
Martin, Clyde V., 2625 W. Paseo Blvd. 64108
Martin, Daniel C., 24th & Cherry Sts., 64108
Masterson, Byron J., 4620 Nichols Parkway 64112
Masucci, Joseph M., Argyle Bldg. 64106
Mathewson, Hugh S., 4620 Nichols Parkway 64112
May, James W., 425 E. 63rd St. 64110
Mayer, John H., Jr., Plaza Parkway Bldg., 64112
Medlicott, William J., 4320 Wornall Rd. 64111
Melgaard, S. Ross, 1012 W. 61st Terr. 64113
Meriwether, Don R., 4620 Nichols Parkway 64112
Metzl, Kurt, 701 E. 63rd St. 64110
Meyer, Paul W., 4312 Nichols Parkway 64112
Meyers, Harold L., 1901 Brookwood Rd., Shawnee Mission, Kan. 66208
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Miller, Clint L., 615 W. 3rd St., Lee's Summit 64063
Miller, Gerald L., 4706 Broadway 64112
Miller, Max I., 4001 W. 66th St., Shawnee Mission, Kan. 66208
Miller, Wilson H., 4620 Nichols Parkway 64112
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Mitra, Nirmal K., 5801 E. 113th St. 64134
Mixson, William C., 4320 Wornall Rd. 64111
Moe, William W., 2625 W. Paseo Blvd. 64108
Montello, Samuel A., 4620 Nichols Parkway 64112
Montgomery, James G., 310 W. 49th St. 64112
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Mullen, Leo M., 4443 Paseo Blvd. 64110
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Murphy, James J., 7546 Troost Ave. 64110
Murphy, Robert J., 4320 Wornall Rd. 64111
Muth, Robert G., 24th & Cherry Sts. 64108
Myers, John S., Shukert Bldg. 64106
Myers, Robert M., Rialto Bldg., 64106
Myers, Wilson A., 425 Huntington Rd. 64113
Naime, Mansour J., 425 E. 63rd St. 64110
Needels, Orval T., 7400 Wornall Rd. 64114
Nelson, Bentley A., 305 W. 43rd St. 64111
Nesselrode, John H., 10901 Winner Rd., Independence 64052
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Nickson, Charles E., Jr., 10901 Winner Rd., Independence 64052
Nicolay, Kenneth S., 4320 Wornall Rd. 64111
Nigro, Dominic M., 207 E. 51st Terr. 64112
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Nigro, Joseph A., 1055 W. 55th St. 64113
Noback, Richardson K., 24th & Cherry Sts. 64108
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Petersen, Gerald D., 7721 State Line 64114
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Pipkin, Garrett F., Argyle Bldg. 64106
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Potter, Lee G., Professional Bldg. 64106
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Printz, Otto J., 701 E. 63rd St. 64110
Pucci, Gregory L., 411 Nichols Rd. 64112
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Roberts, Harold M., Professional Bldg. 64106
Roberts, Sam E., Professional Bldg. 64106
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Robinson, E. Kip, Professional Bldg. 64106
Robinson, G. Wilse, Jr., 2625 Paseo Blvd. 64108
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Robison, James T., Jr., 4620 Nichols Parkway 64112
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Rodgers, Samuel U., 2701 E. 31st St. 64128
Rogers, Robert L., 751 E. 63rd St. 64110
Rose, Charles W., 334 S. Van Brunt 64124
Rubin, Sidney, 1287 W. 72nd St. 64114
Rubnitz, Leon H., 751 E. 63rd St. 64110
Rufe, John R., Bryant Bldg. 64106
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Russell, Robert K., 63rd & Evanston, Raytown 64133
Saferstein, A. Lester, 6859 Cherry 64131
Saladino, Anthony, Argyle Bldg. 64106
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Sanders, Donald C., 2625 W. Paseo Blvd. 64108
Sanders, Hermon U., Jr., 2246 Rhode Island, Lawrence, Kan. 66044
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Santoro, Carlos G., 1103 Westport Rd. 64111
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Sauer, Gordon C., 6400 Prospect Ave. 64132
Saunders, Everett L., 121 W. Lexington, Independence 64050
Scales, Margaret B., 6601 Rockhill Rd., 64110
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Schaerrer, William C., 4320 Wornall Rd. 64111
Schiffmacher, Jack E., Professional Bldg. 64106
Schillie, Gene A., 6400 Prospect 64132
Schottman, Gerhard W., Jr., St. Luke's Hosp. 64111
Schutz, Carl B., 320 W. 47th St. 64112
Schutz, Richard B., 330 W. 47th St. 64112
Seely, Clark W., 4320 Wornall Rd. 64111
Sells, Kenneth J., 5100 E. 24th St. 64127
Sewell, Minor F., 1722 W. 39th St. 64111
Shapiro, Lazare M., 701 E. 63rd St. 64110
Sheahon, John A., 9406 E. 63rd St. 64133
Shecter, Nathan, 701 E. 63rd St. 64110
Shelden, Russell D., 2316 E. Meyer Blvd. 64110
Sheldon, John, 6305 Brookside Plaza 64113
Shifrin, Alexander, 6824 Holmes St. 64131
Shireman, Kenneth L., 4606 St. John 64123
Shires, Edward B., 10312 Cherokee La., Leawood, Kan. 66206
Shockley, Clarence J., 5927 McGee 64113
Shofstall, Charles K., 310 W. 47th St. 64112
Shopfner, Charles E., 1710 Independence 64106
Shuey, Herbert H., 3903 Brooklyn 64130
Shypper, Moses J., 751 E. 63rd St. 64110
Silverstein, Martin E., 5355 Mission Woods Rd., Shawnee Mission, Kan. 66208
Simon, Sanford, 8129 Rosewood, Shawnee Mission, Kan. 66208
Sinclair, Alexander B., 920 W. 47th St. 64112
Singleton, John M., III, 411 Nichols Rd. 64130
Skillman, Robert K., 4320 Wornall Rd. 64111
Skinner, John T., Bryant Bldg. 64106
Slentz, Edwin L., 4320 Wornall Rd. 64111
Slentz, William A., 4320 Wornall Rd. 64111
Slickman, R. A., 7721 State Line 64114
Smith, Arthur B., 6400 Prospect 64132
Smith, Dale C., 4320 Wornall Rd. 64111
Smith, Edwin I., 1710 Independence Ave. 64106
Smith, H. Eugene, 411 Nichols Rd. 64112
Smith, Ira T., 6400 Prospect 64132
Smith, Katherine W., 801 W. 58th Terr. 64113
Smith, O. D., 6300 Woodson, Mission, Kan. Kan. 66202
Smith, Wallace B., 10901 Winner Rd., Independence 64052
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Sneid, Philip, 701 E. 63rd St. 64110
Snider, Samuel H., 722 Ward Parkway 64121
Snider, Wilbur R., 10901 Winner Rd., Independence 64052
Spafford, Allen L., 315 Nichols Rd. 64112
Spalding, Wilber B., Jr., 1102 Grand 64106
Spencer, Donald M., 10901 Winner Rd., Independence 64052
Spies, Barbara J., 5801 E. 113th St. 64134
Spurny, Otto M., 425 E. 63rd St. 64110
Stacey, Wallace R., 2116 S. Sterling Ave., Independence 64052
Staggs, William A., Argyle Bldg. 64106
Staley, Harry R., Bryant Bldg. 64106
Starke, Helen, 2020 Olathe Blvd., Kansas City, Kan. 66103
Statland, Harry, 751 E. 63rd St. 64110
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Stockton, Raymond W., 4320 Wornall Rd. 64111
Stockwell, A. Lloyd, Professional Bldg. 64106
Stone, Raymond F., 7949 State Line 64114
Stotts, Charles S., R.R. 4, Fredonia, Kan.
Stratemeier, Edward H., 31st & Wyandotte 64108
Strauss, Carl F., 701 E. 63rd St. 64110
Stribling, Thomas L., 2116 S. Sterling Ave., Independence 64052
Summers, Caldwell B., Plaza Theatre Bldg. 64112
Sutton, Richard L., Jr., 411 Nichols Rd. 64112
Swisher, Robert C., 425 E. 63rd St. 64110
Switzer, Clyde, 8100 W. 54th Terr., Overland Park, Kan. 66202
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Tarson, Solomon S., 5511 W. 85th St., Overland Park, Kan. 66207
Tasker, Charles B., 31st & Wyandotte 64108
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Tesson, James A., Rialto Bldg. 64106
Theel, Otto W., Jr., 4301 Main 64111
Thiele, George H., 411 Nichols Rd. 64112
Thomas, Christopher Y., 4320 Wornall Rd. 64111
Thomas, Thomas C., 215 S. Sibley St., Buckner
Thompson, Charles L., 4320 Wornall Rd. 64111
Threlkeld, William L., Jr., APCM, BP 117, Luduabourg via Leopoldville, Congo
Tice, Wayne K., 1509 W. Truman Rd., Independence 64050
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Trippe, Harrison C., 317 W. 51st St. 64112
Trowbridge, Barnard C., 415 E. 63rd St. 64110
Trowbridge, Ellsworth H., Jr., 411 Nichols Rd. 64112
Turner, Ronald M., 10901 Winner Rd., Independence 64052
Tutera, Dominic F., Plaza Medical Bldg. 64112
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Twyman, Richard A., 4320 Wornall Rd. 64111
Underwood, Dick H., Bryant Bldg. 64106
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Underwood, Ross H., Bryant Bldg. 64106
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Van Buskirk, William C., 310 W. 47th St. 64112
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Vermeire, David A., 10 Richards Rd. 64116
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Vincent, Jack C., 701 E. 63rd St. 64110
Virden, Herbert H., 7546 Troost 64131
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Wade, Frederick E., Professional Bldg. 64106
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Waxman, Jane Z., 4840 Prospect 64130
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White, James A., 600 E. 45th St. 64110
White, James S., 2849 Indiana 64128
White, Stoughton F., 4320 Wornall Rd. 64111
White, William E., Argyle Bldg. 64106
Whiteman, John R., 6314 Brookside Plaza 64113
Whitman, Doyle C., 18 E. 11th St. 64106
Whitmore, J. Stewart, 1039 W. 58th St. 64113
Whittaker, Charles K., 4320 Wornall Rd. 64111
Wien, Irving A., 1103 Grand 64106
Wilhelm, Warren F., 6400 Prospect 64132
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Willoughby, Jean B., 6400 Prospect 64132
Wilson, Clifford C., Plaza Time Bldg. 64112
Wilson, Hester J., Plaza Time Bldg. 64112
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Winkelman, Esther B., 7449 Broadway 64114
Winston, Bernard H., 751 E. 63rd St. 64110
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Withers, Orval R., Plaza Parkway Bldg. 64112
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Whitten, M. Foster, 616 W. Centennial, Carthage 64836
Wieman, Harry K., Medical Arts Bldg. 64801
Wilcox, Ruth E., 614a Joplin 64801
Wilson, Alice H., 1923 Sergeant 64803
Wood, George H., 1515 Hazel, Carthage 64836
Wooldridge, Bart F., Medical Arts Bldg. 64801
Young, Calvin C., Jr., Medical Arts Bldg. 64801

JEFFERSON COUNTY MEDICAL SOCIETY

Allbee, Roger H., Crystal City 63019
Bolgar, Bertalan, Festus 63028
Carron, Joseph F., Arnold 63010
Donnell, Harold E., Desoto 63020
Donnell, Robert H., Crystal City 63019
Donnell, Thomas A., Desoto 63020
Edwards, Waldo B., 135 W. Adams Ave., Kirkwood 63122
Fallet, Charles E., Desoto 63020
Ibaviosa, Alfred C., Crystal City 63019
Judge, Walter T., Crystal City 63019
Kozal, Francis L., Crystal City 63019
McKinstry, Karl V., Desoto 63020
Mayfield, James L., Crystal City 63019
Reich, Oliver F., Imperial 63052
Rice, Carl E., Hillsboro 63050
Rutledge, John F., Festus 63028
Senn, Emmett J., Herculaneum 63048
Yoskit, Harry, Festus 63028

JOHNSON COUNTY MEDICAL SOCIETY
(Warrensburg 64093)

Cooper, R. Lee, Warrensburg
Damron, Oscar H., Warrensburg
Folkner, A. L., Warrensburg
Frein, Donald E., Leeton 64761
Gonzalez, M. Garza, Warrensburg
Grove, Gulph W., Knobnoster 65336
Harkness, Harry, Warrensburg
Johnson, Charles S., Warrensburg
Jones, Keith D., Warrensburg
Lederer, Charles M., Warrensburg
Maxson, T. Reed, Warrensburg
Rawlins, Kelly, Holden 64040

KNOX COUNTY
(North Central Counties Medical Society)

LACLEDE COUNTY
(Mid-Missouri County Medical Society)

LAFAYETTE-RAY COUNTY MEDICAL SOCIETY

Baldwin, Theodore R., Lawson 64062
Best, Robert, Higginsville 64037
Boydston, Catherine, Odessa 64076
Boydston, W. Wayne, Odessa 64076
Brady, Hugh S., Concordia 64020
Brasher, Ben H., Lexington 64067
Cook, Thomas B., Richmond 64085
Cope, Joseph S., Lexington 64067
Crayton, Billy G., Waverly 64096
Crozier, Franklin A., Richmond 64085
Davault, George K., Richmond 64085
Fulkerson, Wilbur E., Higginsville 64037
Goldberg, Isadore E., Braymer 64624
Huber, K. Herbert, Richmond 64085
Kelling, Douglas G., Waverly 64096
Kelling, Jordan, Waverly 64096
Koppenbrink, Walter E., Higginsville 64037
LaHue, William C., Lexington 64067
Liston, Odus, Oak Grove 64075
McFadden, Gene A., Waverly 64096
Martin, Wilfred E., Odessa 64076
Riley, Charles T., Richmond 64085
Ward, Joe, Lexington 64067
Williams, John W., Oak Grove 64075

LAWRENCE COUNTY
(Ozarks Medical Society)

LEWIS-CLARK-SCOTLAND COUNTIES MEDICAL SOCIETIES

Davis, Landis Y., Canton 63435
Gilfillan, Earl E., Memphis 63555

LINCOLN-ST. CHARLES COUNTY MEDICAL SOCIETY
(St. Charles 63301)

Barnette, Eugene, 207 N. 5th St.
Berry, Paul T., 370 E. Wood, Troy 63379
Canty, Eugene J., 114 N. Main
Clever, Henry W., Jr., 1301 Boonslick Rd.
Commerford, John F., 1301 Boonslick Rd.
Cottey, John H., 222 S. 2nd St.
Creech, Joseph C., Troy 63379
Crider, Russell J., 222 S. 2nd St.
Damron, Edward O., Elsberry 63343
Duling, Gerald J., 207 N. 5th St.
DuMontier, R. J., O'Fallon 63366
Fleming, Robert J., 120 Clay
Goldkamp, John D., 207 N. 5th St.
Gore, Glenn L., 207 N. 5th St.
Hammes, Roman E., 207 N. 5th St.
Hanlon, Russell C., 1301 Boonslick Rd.
Hetlage, Louis P., Troy 63379
Kamada, Tsutomu, 114 E. Elm, O'Fallon 63366
Keller, Robert M., 704 W. Old Hwy. 40, Wentzville 63385
Kister, George E., 302 S. 2nd St.
Linsenmeyer, Charles M., 119 Clay St.
Muenster, Vincent P., #3 Briarwood
Neubeiser, Ben L., 2nd & Clay Sts.
Perna, Vincent P., 100 N. Euclid Ave. St. Louis 63108
Poggemeier, William H., Jr., 302 S. 2nd St.
Randall, Don Q., 220 S. 6th St.
Roter, Alexander M., 2414 W. Clay
Rother, Paul H., 1301 Boonslick Rd.
Schneider, Thomas A., 207 N. 5th St.
Schuetz, Alfred, 1301 Boonslick Rd.
Scokel, Paul W., III, 207 W. 5th St.
Smoller, Martin B., 207 N. 5th St.
Thiele, O. K., 140 N. Kingshighway

Towers, Orville W., 114 N. Main
Westerfeld, Roy A., 1301 Boonslick Rd.
Wipfler, Earl J., Jr., 143 Cardinal La.
Yaeger, Gerald A., 2444 W. Clay St.

LINN COUNTY
(Grand River Medical Society)

LIVINGSTON COUNTY
(Grand River Medical Society

McDONALD COUNTY
(Ozarks Medical Society)

MACON COUNTY
(Chariton-Macon-Monroe-Randolph County Medical Society)

MADISON COUNTY
(Mineral Area County Medical Society)

MARIES COUNTY
(Mid-Missouri County Medical Society)

MARION-RALLS-SHELBY COUNTY MEDICAL SOCIETY
(Hannibal 63401)

Archer, Perry C., Shelbyville 63469
Bach, Lysle M., 1737 Harrison Hill
Burns, Francis R., 711 Grand
Clisham, John F., B & L Bldg.
Dodson, Danny L., 400 N. Main, Monroe City 63456
Fischer, Thomas J., 2910 St. Mary's
Foreman, Phillip B., 711 Grand
Francka, W. F., 603 Country Club Dr.
Glascock, Donald W., 122 W. North St., Palmyra 63461
Grant, Albert J., 115 N. 5th St.
Greene, Harry L., Holmes Bldg.
Hamlin, Wyeth, 711 Grand
Hinds, R. David, 2910 St. Mary's
Landau, Daniel B., 711 Grand
Lanning, Robert J., 115 N. 5th St.
Latimer, Walter N. A., B & L Bldg.
Lichty, Charles A., Shelbina 63468
Lucke, Eugene M., Court House
Mann, James K., 4074 Hillside Dr.
Murphy, Bernard L., 2000 Crescent Dr.
Plowman, Edward M., B & L Bldg.
Purcell, P L., Smithville 64089
Rapp, Earl L., 711 Grand
Roller, Merrill J., 2910 St. Mary's
Steele, James C., Jr., 711 Grand
Strong, Richard M., 711 Grand
Sweets, Henry H., Jr., 1003 Broadway
Waltersheid, John H., 1209 Broadway
Well, Julius W., Palmyra 63461

MERCER COUNTY
(Grand River Medical Society

MID-MISSOURI COUNTY MEDICAL SOCIETY
(Phelps-Crawford-Dent-Pulaski-Maries-Laclede Counties)

Bass, Billy J., Salem 65560
Baumann, Albert R., Steelville 65565
Butts, James D., Rolla 65401
Carrington, Howard W., Lebanon 65536
Crosby, Alice S., 2019 Crestridge Dr., Columbia 65201
Dierker, H. D., Lebanon 65536
Drake, Avery A., Rolla 65401
Elders, Frank A., Jr., Cuba 65453
Feind, Earl E., Rolla 65401
Froelich, Rae W., Lebanon 65536
Garrison, T. W., Camdenton 65020
Hammler, Christiana V., St. James 65559
Hart, Martin M., Salem 65560
Holley, Donald B., Camdenton 65020
Hope, James L., Lebanon 65536
Hurst, Ben B., Lebanon 65536
Longo, D. V., Lebanon 65536
Lytle, William R., Rolla 65401
Miller, Clyde S., Waynesville 65583
Mitchell, Roy E., Salem 65560
Myers, James M., Rolla 65401
Riffel, Gordon W., Bourbon 65441
Russell, Barbara E., Rolla 65401
Striker, Emil A., St. James 65559
Stumpf, Stanley E., Lebanon 65536
Summers, Jacob H., Lebanon 65536
Young, Robert B., Rolla 65401

MILLER COUNTY MEDICAL SOCIETY

Buehler, Carl T., Jr., Eldon 65206
Shelton, Edward O., Eldon 65026

MINERAL AREA COUNTY MEDICAL SOCIETY
(St. Francois-Iron-Madison-Washington-Reynolds Counties)

Appleberry, Charles H., Rivermines 63668
Brennan, John A., Farmington 63640
Bugg, Andrew F., 312 E. 3rd St., Lordsburg, New Mexico
Bull, Ben M., Ironton 63650
Burcham, Tom R., Jr., Farmington 63640
Carleton, Charles E., Jr., Farmington 63640
Chastain, Charles W., Farmington 63640
Cresswell, George F., Potosi 63664
Crouch, F. Richard, Farmington 63640
Dennis, W. Paul, Flat River 63601
Dettmer, Robert F., Ironton 63650
Farrar, Charles B., 719 N. Middle St., Cape Girardeau 63701
Ford, William, Farmington 63640
Foster, Jack L., Desloge 63601
Gaskins, Charles W., Ironton 63650
Grossman, Marvin, Fredericktown 63645
Hardy, Stanton L., Desloge 63601
Harland, Robert E., Ironton 63650
Haw, Marvin T., Jr., 1807 Jackson, Columbia 65201
Hoctor, Emmett F., Farmington 63640
Huckstep, Robert A., Farmington 63640
Hunt, John W., Jr., Farmington 63640
Jimenez, Jose, Farmington 63640
Karraker, Alvan G., Farmington 63640
Marten, Sue, Viburnum 65566
Menne, Marvin C., Ironton 63650
Michaelis, Charles E., Fredericktown 63645
Mullen, Jack, Bonne Terre 63628
Oliver, George A., Farmington 63640
Osborn, Retus W., III, Farmington 63640
Patton, William G., 1955 Kerns Ave., San Marino, Calif.
Slaughter, Shelby C., Fredericktown 63645
Taylor, Van W., Bonne Terre 63628
Turner, Kirby L., Potosi 63664
Vester, James E., Bismarck 63624
Warren, T. Thomas, Potosi 63664
Watkins, George L., Jr., Farmington 63640

MISSISSIPPI COUNTY
(SEMO County Medical Society)

MONITEAU COUNTY MEDICAL SOCIETY
(California 65018)

Fulks, Richard B., California
Gallagher, Lionel M., California
Kibbe, Edgar A., California
Latham, Kenyon S., California

MONROE COUNTY
(Chariton-Macon-Monroe-Randolph County Medical Society)

MONTGOMERY COUNTY MEDICAL SOCIETY

Andersen, Elmer J. T., Montgomery City 63361
Byland, Samuel J., Wellsville 63384
Helm, James O., New Florence 63363
Steinbeck, Herbert F., Montgomery City 63361

MORGAN COUNTY MEDICAL SOCIETY
(Versailles 65084)

Gunn, Jack, Versailles
Kauffman, Ruth, Versailles
Lyle, Robert R., Versailles
Washburn, J. Loren, Versailles

NEW MADRID COUNTY
(SEMO County Medical Society)

NEWTON COUNTY
(Ozarks Medical Society)

NORTH CENTRAL COUNTIES MEDICAL SOCIETY
(Adair-Schuyler-Knox-Sullivan-Putnam Counties)
(Kirksville 63501)

Buben, Robert W., Kirksville
Cramb, Arthur B., 711 C. E. Orange, Lakewood, Fla.
English, Milton T., Jr., Kirksville
Freeman, Spencer L., Kirksville
Grim, Edward M., Kirksville
Hasselblad, Oliver W., 297 Park Ave., South, New York, N. Y. 10011
Hilton, Paul E., Kirksville
Isom, Waldo B., Knox City 63446
Jones, John B., Kirksville
Stickler, Ralph O., Kirksville
Tarvydas, Francis, Edina 63537
Tendai, Mark M., Kirksville
Wimp, J. J., Kirksville

NORTHWEST MISSOURI MEDICAL SOCIETY
(Nodaway-Holt-Achison-Gentry-Worth Counties)

Bare, Edward F., Tarkio 64491
Bauman, Henry C., Maryville 64468
Blacklock, David E., King City 64463
Byland, Benjamin F., Maryville 64468
Carlin, Albert L., Stanberry 64489
Carpenter, Wallace, Rock Port 64482
Cossins, Carlos E., State Hosp. #2, St. Joseph 64506
Dunshee, Robert E., Maryville 64468
Humphrey, James, Mound City 64470
Imes, Elvin D., Maryville 64468
Jackson, William R., Maryville 64468
Matteson, Frank B., Grant City 64456
Morgan, Troy O., Jr., Albany 64402
Niedermeyer, Edward L., Tarkio 64491
Parsons, Bernie, Albany 64402
Perry, David C., Mound City 64470
Wanamaker, John M., Rock Port 64482
Wempe, G. Raymond, Maryville 64468

OREGON COUNTY
(South Central Counties Medical Society)

OSAGE COUNTY
(Unorganized)

OZARK COUNTY
(South Central Counties Medical Society)

OZARKS MEDICAL SOCIETY
(Barry-Lawrence-Stone-Christian-Taney-Newton-McDonald Counties)

Alsup, Frederick F., RFD 1, Box 982, Belen, N. M.
Anderson, Paul B., Neosho 64850
Bailey, Alan B., Mt. Vernon 65712
Blankenship, George W., Neosho 64850
Bowman, Melvin C., Neosho 64850
Brasher, Charles A., Mt. Vernon 65712
Brown, Frederick B., Aurora 65605
Burney, Wallace S., Miller 65707
Capetti, Alex P., Crane 65633
Carter, James R., Neosho 64850
Coffman, Esther E. L., 1514 13th North, Lakeworth, Fla.
Cohnberg, Rosellen E., Neosho 64850
Cortez, Willie S., Mt. Vernon 65712
Cowan, R. D., Aurora 65605
Crain, James W., Branson 65616
Dabbs, Wilbur D., Neosho 64850
Donley, Robert R., Monett 65708
Edwards, Francis L., Monett 65708
Evans, Harry T., Branson 65616
Fogerson, Virginia L., Branson 65616
Gardner, Joseph W., Reeds Spring 65737
Gillespie, Roy, Branson 65616
Glass, William J., Jr., Monett 65708
Glover, Kenneth, Mt. Vernon 65712
Graves, Arthur J., Mt. Vernon 65712
Hamilton, William P., Aurora 65605
Hellweg, Charles E., Mt. Vernon 65712
Kelsey, Kenneth L., Aurora 65605
Kenney, Roy E., Neosho 64850
Kerr, Frank T., Monett 65708
Lentz, Harold C., Neosho 64850
McCallum, A. J. C., Aurora 65605
Magness, William C., Branson 65616
Mars, Hartley F., Forsyth 65653
Marty, Loraine A., Pierce City 65723
Moore, Allen H., Jr., Branson 65616
Morrison, T. A., Aurora 65605
Newman, Mary Jane, Cassville 65625
Olive, George C., Neosho 64850
Price, Charles H., Cassville 65625
Reynolds, James R., Neosho 64850
Rogers, Donald B., 3651 Prescott Ave., Lincoln, Nebr. 68506
Roper, Stanley D., Ozark 65721
Schultz, Loraine E., Branson 65616
Shumate, L. St. Clair, Reeds Spring 65737
Spears, Charles A., Branson 65616
Sweany, Henry C., Mt. Vernon 65712
Taylor, Leo T., Neosho 64850
Threadgill, Jesse M., Forsyth 65653

Wilson, Daniel R., 26 Pennsylvania, Leavenworth, Kan.
Wommack, Fred L., Crane 65633
Yates, J. Lewis, Mt. Vernon 65712

PEMISCOT COUNTY MEDICAL SOCIETY

Aquino, Philip J., Caruthersville 63830
Bernard, J. W., Carthersville 63830
Bryant, William O., Hayti 63851
Cain, Charles F., Caruthersville 63830
Caldwell, Jacob D., Hayti 63851
Chapman, Jerry R., Steele 63877
Cook, Oliver W., Caruthersville 63830
Cooper, Lawrence E., 1274 Hanton, Fort Myers, Fla.
Grable, James, Portageville 63873
Gubin, Alan S., Caruthersville 63830
Hensley, Daniel R., Lilbourn 63862
McCoy, Warren R., Caruthersville 63830
McKaskle, Clarence W., Caruthersville 63830
Painter, Andrew E., Portageville 63873
Painter, Lattie B., Jr., Portageville 63873
Shirey, Arnold G., Hayti 63851
Strittmatter, James C., Caruthersville 63830

PERRY-STE. GENEVIEVE COUNTIES MEDICAL SOCIETY

Carron, Oscar A., Perryville 63775
DeGenova, Gerard H., Ste. Genevieve 63670
Fairchild, James F., Perryville 63775
Feltz, Lawrence W., Perryville 63775
Fischer, Theodore, Altenburg 63732
Lanning, Richard C., Ste. Genevieve 63670
Legner, Stanley G., Perryville 63775
Lutkewitte, Joseph F., Ste. Genevieve 63670
McDermott, Alfred E., Perryville 63775
Miller, Oliver J., 1972 Bend Rd., Cape Girardeau 63701
Utterman, William F., Perryville 63775

PETTIS COUNTY MEDICAL SOCIETY
(Sedalia 65301)

Arnold, Ricard C., P. O. Box 53, Columbia 65205
Beckemeyer, William A., 500 W. 16th St.
Bess, William E., 210 S. Ohio
Boger, James W., 500 W. 16th St.
Brady, Charles H., Gordon Bldg.
Braverman, Elliot M., 1806 W. 11th St.
Brazos, John C., Smithton 65350
Campbell, Albert J., Jr., 312 S. Ohio
Daum, Harold F., Bothwell Memorial Hosp.
Edwards, David R., 700 S. Limit
Eldenburg, Donald, 700 S. Limit
Fisher, Stanley D., Sedalia
Glass, Robert L., 1108 Herold
Gonser, Karl B., 101 S. Ohio
Hopkins, Thomas J., 700 S. Limit
Hopkins, T. Spencer, 1609 S. Limit
Lamy, John E., 509 W. Broadway
Lowe, Alvin L., 621 W. 16th St.
Maddox, Albert R., 116 W. Main
Osborne, Charles D., 710 W. Broadway
Owings, Raymond H., Bothwell Memorial Hosp.
Proctor, Donald C., 700 S. Limit
Rhodes, Euhlan L., Warsaw 65355
Roberts, Paul A., Sweet Springs 65351
Rodeman, John M., Gordon Bldg.
Siegel, Carl D., 810 S. Barratt
Siegel, Peter V., 3706 Corey Place, Washington, D. C. 20016
Stauffacher, C. Gordon, 700 S. Limit
Stewart, Robert H., Bothwell Memorial Hosp.
Van Dyke, Elmer H., 415 S. Lamine
Walter, Archie L., 500 W. 16th St.
Worley, Charles A., Sweet Springs 65351

PHELPS COUNTY
(Mid-Missouri County Medical Society)

PIKE COUNTY MEDICAL SOCIETY

Andrae, Robert L., Louisiana 63353
Christensen, Roger F., Louisiana 63353
Day, John K., Bowling Green 63334
Jackson, Edward K., Clarksville 63336
Lewellen, Charles H., Louisiana 63353
Martin, W. Joe, Louisian 63353
Middleton, John W., Louisiana 63353
Smith, Ted P., Bowling Green 63334
Stuerman, Lawrence G., Louisiana 63353
Wilcoxen, William B., Bowling Green 63334

PLATTE COUNTY MEDICAL SOCIETY

Allen, S. Lloyd, 3505 Eastwood La., Kansas City 64151
Kimball, Ireland W., 5621 Valley Rd., Kansas City 64151
Parker, H. Graham, Platte City 64079
Robinson, John A., Edgerton 64444
Thurman, Hill C., Parkville 64152
Vescovo, Paul C., 4106 Vivion Rd., Kansas City 64117

POLK COUNTY
(Dallas-Hickory-Polk County Medical Society)

PULASKI COUNTY
(Mid-Missouri County Medical Society)

PUTNAM COUNTY
(North Central Counties Medical Society)

RALLS COUNTY
(Marion-Ralls-Shelby County Medical Society)

RANDOLPH COUNTY
(Chariton-Macon-Monroe-Randolph County Medical Society)

RAY COUNTY
(Lafayette-Ray County Medical Society)

REYNOLDS COUNTY
(Mineral Area County Medical Society)

RIPLEY COUNTY
(Butler-Wayne-Ripley County Medical Society)

ST. CHARLES COUNTY
(Lincoln-St. Charles County Medical Society)

ST. CLAIR COUNTY
(West Central Missouri Medical Society)

ST. FRANCOIS COUNTY
(Mineral Area County Medical Society)

STE. GENEVIEVE COUNTY
(Perry-Ste. Genevieve Counties Medical Society)

ST. LOUIS MEDICAL SOCIETY
(St. Louis)

Aach, Richard D., Barnes Hospital Plaza 63110
Abel, Charles C., 4511 Forest Park Blvd. 63108
Abel, Oliver, III, 4511 Forest Park Blvd. 63108
Abell, Walter E., 2253 S. 39th St. 63110
Abrams, Morris, 4919 Forest Park Blvd. 63108
Acker, Harry L., 6150 Oakland 63110
Ackerman, Lauren V., 600 S. Kingshighway 63110
Adler, Benard C., 4511 Forest Park Blvd. 63108
Agress, Harry, 8631 Delmar 63124
Ahern, Archibald M., 3915 Watson Rd. 63109
Ahlering, George H., 950 Francis Pl. 63105
Aitken, Louis F., 5102 Queeny Tower Bldg., 4989 Barnes Hospital Plaza 63110
Akyol, Salim, 5540 Delmar 63112
Aldrich, James T., 2621 Franklin 63106
Alexander, Frazier D., 4969 Enright 63108
Alexander, Harry L., 52 Maryland Plaza 63108
Allen, Henry C., Clayton Medical Bldg., 63105
Allen, Hollis N., 634 N. Grand 63103
Allen, Melvin A., 3701 Grandel Sq. 63108
Allen, Willard M., 630 S. Kingshighway 63110
Allen, William E., Jr., 720 N. Sarah 63108
Alonso-Yague, P., 100 N. Euclid 63108
Altheide, J. Paul, 607 N. Grand 63103
Alvis, Bennett Y., 100 N. Euclid 63108
Alvis, Edmund B., 100 N. Euclid 63108
Anderson, John M., 1420 Grattan 63104
Anstey, George, 4660 Maryland 63108
Apicella, Frank V., 1055 Riviera Dr., Marion, Ohio 43305
Arneson, Axel N., 457 N. Kingshighway 63108
Arney, William G., 16 Hampton Village Plaza 63109
Aronberg, Lawrence M., 2120 S. Warson Rd. 63124
Auer, Arthur I., 667 Langton 63105
Auer, Edward T., #9 Clayton Terr. 63131
Aufderheide, G. R., 2326 Noll Dr. 63136
Austin, Martin G., 40 Villa Coublay 63131
Aylward, Howard J., 410 Dielman Rd. 63132
Azuma, Nobutaka, 3901 Tholozan 63116
Azzouni, Joseph N., 8460 Watson Rd. 63119
Babka, Joseph J., 6400 Bancroft 63109
Backer, Matthias H., Jr., 3923 Watson Rd. 63109
Baggot, Michael G., 3010 Nameoki Rd., Granite City, Ill.
Bailey, Drennan, 6356 Clayton Rd. 63117
Bailey, Frank A., 3654 S. Grand 63118
Bandle, Donald F., 3801 January 63109
Banet, Samuel R., 7301 St. Charles Rock Rd. 63133
Banton, M. Roman, 2917 St. Louis 63106
Banton, William C., 2917 St. Louis 63106
Barden, Frank W., 41 Beaver Dr., 63141
Bardenheier, J. Phil, 6400 Morganford Rd. 63116
Barrett, Scott R., 5086 Easton 63113
Barrios, Francisco, 5641 Potomac 63139
Bartels, Leo G., 906 Olive 63101
Bartlett, Robert W., 100 N. Euclid 63108
Bartlett, Willard, Jr., 6744 Clayton Rd. 63117
Bartnick, Mitchel L., 6476 Eichelberger 63109
Bassett, Robert B., 5427 Delmar 63112
Bauer, John D., Northland Medical Bldg. 63136
Bauer, Maria, 1935 Edison, Granite City, Ill.
Bauer, Otto, 1935 Edison, Granite City, Ill.
Baumann, William B., Box 439, Letterman General Hospital, San Francisco, Calif.
Baumgarten, Walter, Jr., 5505 Delmar 63112
Bawell, Malcolm B., 4660 Maryland 63108
Beard, Daniel D., 2356 Wallis 63114
Beare, J. Byron, 3720 Washington 63108
Beato, David L., 4149 Cleveland 63110
Beck, Rea, 6658 Sutherland 63109
Becke, William G., 3720 Washington 63108
Becker, Bernard, 640 S. Kingshighway 63110
Becker, Edward J., 906 Olive 63101
Becker, George H., 6744 Clayton Rd. 63117
Becker, Stanley C., 8110 Roxburgh Dr. 63124
Beckette, Edmund S., 950 Francis Pl. 63105
Beckman, Donald E., 205 Virginia Ave. 63111
Behrens, Donald T., #6 Thorndell Dr. 63117
Behrens, Gerald L., #3 Colonial Ct. 63124
Beidle, Raymond J., 9440 Midland 63114
Beis, Louis D., 2601 Whittier Ave., 63113
Belew, Joe E., 5505 Delmar 63112
Bell, Robert M., 3720 Washington 63108
Benage, Clarence M., 4511 Forest Park Blvd. 63108
Benjamin, Durand, 7430 Virginia 63111
Benson, John F., 3737 N. Kingshighway 63115
Berard, Louis N., 812 Olive 63101
Berg, Leonard, 4989 Barnes Hospital Plaza 63110
Berg, Ralph, 3203 S. Grand 63118
Bergman, Hugo F., 3720 Washington 63108
Bergmann, Dwayne, 7778 W. Bruno 63139
Bergner, Grace E., 114 N. Taylor 63108
Berland, Harry I., 812 Olive 63101
Berman, Joseph P., 1225 N. Grand 63106
Berman, William, 4919 Forest Park Blvd. 63108
Bernard, Harvey R., 4960 Audubon 63110
Berry, John W., 9845 Northbridge 63124
Bersche, Bertram L., 23 Beaver Dr. 63141
Bettonville, Paul J., Jr., 6331 Pershing 63130
Biddy, Ralph L., 1221 S. Grand 63104
Bieri, Earl J., 5517 S. 37th St. 63116
Bilsky, Nathan, 4511 Forest Park Blvd. 63108
Bindbeutel, Arthur H., 5203 Chippewa 63109
Bindbeutel, Donald A., 630 Westborough Pl. 63119
Binder, Morton A., 4652 Maryland 63108
Bircher, John L., 3932 Federer Pl. 63116
Bird, H. Waldo, 1402 S. Grand 63104
Birge, Clifford A., 435 W. Jackson Rd. 63119
Bisno, Daniel, 8000 Bonhomme Rd. 63105
Blair, Vilray P., Jr., #9 Stoney Brooks La. 63124

Blalock, William N., 114 N. Taylor 63108
Block, Arnold S., 4919 Buckingham Ct. 63108
Blount, Lee, Jr., 3737 N. Kingshighway 63115
Bockelmann, Clifford H., 2615 Brentwood Blvd. 63117
Boedeker, Roy V., 100 N. Euclid 63108
Boemer, Lilborn C., 3720 Washington 63108
Bohne, William R., 4500 Olive 63108
Bohrer, Harry C., 607 N. Grand 63103
Boldizar, Albert G., 3720 Washington 63108
Boldt, Thomas H., Northland Medical Bldg. 63136
Bolton, Robert L., 10425 W. North, Milwaukee, Wisc. 53220
Bond, Leslie F., 5801a Easton 63112
Bondurant, Bryce H., 134 Frontenac Forest 63131
Bonfanti, Albert L., 3225 Longfellow Blvd. 63104
Borowsky, Benjamin A., 100 N. Euclid Ave. 63108
Bosewell, John R., 12918 Topping Estates North Dr. 63131
Boucher, Robert, #5 Klondike Rd., Avon, Mass. 02322
Bouhasin, John D., 3720 Hampton 63109
Boveri, Joseph C., 16 Hampton Village Plaza 63109
Bowdern, Edward H., #2 Berkshire La. 63117
Bowen, Stephen F., Jr., 16 Hampton Village Plaza 63109
Bowerman, Harold H., 607 N. Grand 63103
Bowersox, Warren A., 214 N. First St., Pacific 63069
Bowles, G. Robert, 135 W. Adams 63122
Bowles, William T., 4960 Audubon 63110
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Klinkerfuss, George H., 660 S. Euclid 63110
Klippel, Bernhardt W., 6500 Chippewa 63109
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Kloecker, Robert P., 9616 Lackland Rd. 63114
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Kohler, Louis H., 100 N. Euclid 63108
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Koutsoumpas, William V., 3024 Hawthorne Blvd. 63104
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Kramolowsky, Helmuth H., 812 Olive 63101
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Lerwick, Everett R., 40 Portland Pl. 63108
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O'Sullivan, Daniel F., 16 Hampton Village Plaza 63109
O'Sullivan, George A., 421 Schirmer 63111
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Parker, William, 611 Olive 63101
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Pernoud, Flavius G., Jr., 841 Audubon Dr. 63105
Pernoud, Michael F., 51 Frontenac Dr. 63131
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Smith, Garland F., 141 N. Meramec 63105
Smith, Herbert P., 5205 Chippewa 63109
Smith, Hugh R., 6500 Chippewa 63109
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Smith, Milton, 141 N. Meramec 63105
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Stamp, Warren G., 2001 S. Lindbergh 63131
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Staple, Tom W., 510 S. Kingshighway 63110
Starkloff, Gene B., 100 N. Euclid 63108
Starkloff, Max, 6304 S. Grand 63111
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Stein, Arthur H., Jr., 35 N. Central 63105
Stein, Martin F., 114 N. Taylor 63108
Steinberg, Franz U., 216 S. Kingshighway 63110
Stephens, LeRoy J., 7937 Big Bend 63119
Stergen, N. E., 5647 Bermuda 63121

Sterkel, Richard L., 634 N. Grand 63103
Stewart, John W., 4660 Maryland 63108
Stewart, Mark A., 4950 Audubon 63110
Stindel, Charles E., 341 Violet La. 63119
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Sunderman, Raymond C., 4943 Natural Bridge Rd. 63115
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Ternberg, Jesse L., 4960 Aubudon 63110
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Ecker, Decider B., Pacific 63069
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Eistenstein, Albert B., 818 S. Meramec 63105
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Ellison, Leroy E., 7346 Myrtle 63117
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Freiheit, Harold J., #3 Devondale La. 63131
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Friedman, Robert H., 150 N. Meramec 63105
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Gale, Philip R., 9216 Clayton Rd. 63124
Gall, Ira, 141 N. Meramec 63105
Gaunt, Frank P., 203 W. Cedar 63119
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Gibstine, Marvin H., 10517 St. Charles Rock Rd. 63114
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Gilcrest, Harry R., 3137 Glenwood Ct. 63174
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Gollub, Samuel W., 8112 Delmar 63130
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Goodrich, Harold A., 19 E. Lockwood 63119
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Jones, Victor, 2240 St. Clair Ave. 63117
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Kaskie, Clifford R., 35 N. Central 63105
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Kilker, Donald E., 3121 N. Grand 63107
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Levey, Simon A., 407 Kalen Dr. 63114
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Lissner, Arthur B., 6944 Chippewa 63109
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McCarthy, Thomas D., 607 East Dr. 63135
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McKee, Oliver A., N. Kirkwood Rd. & Washington 63122
McLean, Royal C., 520 W. Jewel 63122
McManamon, Thomas V., 6250 N. Lindbergh Blvd., Hazelwood 63042
McMurray, Herbert C., Manchester 63062
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McNalley, Michael, 135 W. Adams 63122
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Magee, William E., 4910 Forest Park Blvd. 63108
Magidson, Joseph, 615 Forest Ct. 63105
Magness, Guy N., 608 Kingsland 63130
Mahe, George A., 8039 Park Dr. 63117
Mangelsdorf, Thomas K., 4919 Buckingham Ct. 63108
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Marmor, William A., 607 N. Grand 63103
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Martz, John C., 237 Spencer Rd. 63119
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Maxwell, Richard W., 5257 Lindell Blvd. 63108
May, Benjamin F., 736 Audubon Dr. 63105
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Meyer, Jay, 911 S. Brentwood Blvd. 63105
Mezera, Raymond A., 7135 Forsyth Blvd. 63105
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Miles, Paul W., 100 N. Euclid 63108
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** No Medical Society.

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Mrs. Herbert L. Mantz (Jackson) 1209 Romany Rd., Kansas City 64113	1938-39
Mrs. Paul F. Cole (Greene) 1819 Maine St., Quincy, Ill. 62301	1939-40
Mrs. S. P. Howard (Cole) 3505 Greenwood Dr., Waco, Texas 76708	1940-41
Mrs. J. J. Drace (Cape Girardeau) 903 Bellevue, Cape Girardeau 63701	1941-42
Mrs. Frank L. Davis* (St. Louis City)	1942-43
Mrs. Robert C. Haynes (Saline) 754 Eastwood, Marshall 65340	1943-44
Mrs. J. B. McCubbin (Callaway) 531 E. 20th St., New York, N. Y. 10010	1944-45
Mrs. Harry M. Gilkey* (Jackson)	1945-46
Mrs. W. E. Koppenbrink, Sr. (Lafayette-Ray) 1303 Main, Higginsville 64037	1946-47
Mrs. W. L. Allee* (Miller-Morgan-Moniteau)	1947-48
Mrs. August A. Werner* (St. Louis City)	1948-49
Mrs. John J. O'Connell (St. Louis County) 1937 O'Connell Ave., Overland 63114	1949-50
Mrs. Dwight T. VanDel (Jackson) 7531 Terrace, Kansas City 64114	1950-51
Mrs. W. Carey Cheek (Greene) 1535 E. Meadowmere, Springfield 65804	1951-52
Mrs. Richard A. Sutter (St. Louis County)** 7215 Greenway Dr., University City 63130	1952-53
Mrs. C. Alex McBurney (Saline) 927 Hurt St., Slater 65349	1953-54
Mrs. Wilfred E. Martin (Lafayette-Ray) 403 S. 2nd St., Odessa 64076	1954-55
Mrs. Frank B. Leitz (Jackson) 308 W. 116th St., Kansas City 64114	1955-56
Mrs. Charles T. Shepherd (St. Louis County) 10 Covington Meadows, St. Louis 63131	1956-57
Mrs. Armand D. Fries (St. Louis City) 11 W. Geyer Lane, St. Louis 63131	1957-58
Mrs. Henry C. Bauman (Nodaway-Holt-Atchison-Gentry-Worth) 929 W. 3rd St., Maryville 64468	1958-59
Mrs. Stanley S. Peterson (Greene) 721 E. Stanford, Springfield 65804	1959-60
Mrs. Jordan Kelling (Lafayette-Ray) P. O. Box 171, Waverly 64096	1960-61
Mrs. Frederick E. Wade (Jackson) 413 W. 62nd St., Kansas City 64113	1961-62
Mrs. J. Martyn Schattyn (St. Louis County) 9 Huntleigh Downs, Frontenac, St. Louis 63131	1962-63
Mrs. Lawrence S. Crispell (Jasper County) 911 Kensington, Joplin 64801	1963-64
Mrs. Delevan Calkins* (St. Louis City)	1964
Mrs. Ralph Woods Bohnsack (Grand River) 1017 Brookfield Ave., Brookfield 64628	1964-66

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* Deceased.
** National President.

Roster of Woman's Auxiliary Members by Society

AUDRAIN COUNTY
(Mexico 65265)

Boyce, Mrs. John M., 1321 Rosebud
Davis, Mrs. Leonard L., 725 Lakeview
Dwyer, Mrs. Thomas L., 301 N. Cole
Ekern, Mrs. H. Peter, 1502 Ringo
Epple, Mrs. Lawrence K., 502 E. Monroe
Garcie, Mrs. C. L., 8 Melody Lane
Jolley, Mrs. J. F., 726 W. Monroe
Jolly, Mrs. Ben N., 1421 S. Jefferson Rd.
Kallenbach, Mrs. Glen P., Route 5
Kittelberger, Mrs. George William, 1101 West St.
Lankford, Mrs. Harold D., 1025 S. Olive
O'Brien, Mrs. Harry F., 408 Harvard
Parrish, Mrs. J. C., 206 West State St., Vandalia, Mo. 63382
Rodes, Mrs. Ned D., 625 Lakeview
Rouse, Mrs. David M., 1415 Hickory Hill
Wallace, Mrs. Ed S., 811 S. Jefferson
Withers, Mrs. Sanford, 219 East Anderson St.

BOONE COUNTY
(Columbia 65201)

Allen, Mrs. Horace E., 2109 Valley Dr.
Allen, Mrs. Joseph E., 2000 N. Allen Dr.
Allen, Mrs. William C., 2401 Highland Dr.
Almond, Mrs. Carl, 213 W. Blvd. South
Anderson, Mrs. Philip C., 908 Edgewood
Anderson, Mrs. William, 2002 Valley View Dr.
Asel, Mrs. Norman, 1112 S. Glenwood
Baker, Mrs. Sherwood A., 2620 Walther Ct.
Basket, Mrs. Edgar, 1316 Bass Ave.
Black, Mrs. Samuel, 300 S. Glenwood
Brooke, Mrs. Clement E., 901 Edgewood
Bruner, Mrs. Claude, 511 S. Glenwood
Buesseler, Mrs. John, 813 Maupin Rd.
Bamgarner, Mrs. James, 1815 Rollins
Bumgarner, Mrs. Roger, Route 1
Bynum, Mrs. William R., 2015 Crestridge Dr.
Chalkley, Mrs. Judson, 614 W. Stewart Rd.
Cheek, Mrs. Charles W., 382 Crown Point
Cochran, Mrs. Donald, 112 Sappington
Colwill, Mrs. Jack M., 1105 S. Glenwood
Cooper, Mrs. Maurice, 1000 Wayne Rd.
Cope, Mrs. James, Route 1, Rocheport 65279
Crough, Mrs. Richard, 308 Hitt Manor House Apt.
Darnell, Mrs. Thomas F. B., 2617 Walther Ct.
Denninghoff, Mrs. James C., 1906 Vassar
DeWeese, Mrs. Marion, 807 Stewart Rd.
Eggers, Mrs. William, 100 Westwood
Fuchs, Mrs. George, Jr., 1026 Hickory Hill Dr.
Galeota, Mrs. William, 1719 Ridgemont
Garb, Mrs. Solomon, 101 Gipson
Garrett, Mrs. Glen, 102 E. Brandon Rd.
Gaunt, Mrs. William D., 1117 South Glenwood
Griffin, Mrs. William T., 107 Westwood
Hall, Mrs. David G., 1014 S. Glenwood
Hall, Mrs. John, 308 Hitt St.
Hardwicke, Mrs. Henry, Ashland 65010
Harris, Mrs. Robert J., 2008 Hazelwood Dr.
Jackson, Mrs. Robert L., 1103 W. Stewart Rd.
Johnson, Mrs. Richard, 129 Taylor
Keown, Mrs. Kenneth, 402 Westmount
LaChance, Mrs. Leopold, Centralia 65240
Ladenson, Mrs. Roland, 704 Westmount
Leech, Mrs. Charles, 815 W. Stewart Rd.
Leeper, Mrs. Sidlee W., 606 Stewart Rd.
Logue, Mrs. John, 912 Crestland
Lohmar, Mrs. Roland E., 1501 West Blvd. Ct.
Lucas, Mrs. Fred, 2 Ridgeley Rd.
Mackenzie, Mrs. James William, 509 Westmount
Marco, Mrs. Philip J., 1015 College Park Dr.
Marienfeld, Mrs. Carl, 304 Longfellow La.
Martt, Mrs. Jack, 2205 Danforth Ct.
Mayer, Mrs. William, 1000 Lakeshore Dr.
McElroy, Mrs. Glenn, Route 3
Metzgar, Mrs. Marshall T., 1205 Fieldcrest
Miller, Mrs. LeRoy, 32 Bingham Rd.
Mitchell, Mrs. Frank, 819 Greenwood Ct.
Modlin, Mrs. John, 706 Thilly
Overholser, Mrs. Milton, 110 E. Brandon Rd.
Payne, Mrs. John, Route 5, Fulton 65251
Pfefer, Mrs. Leland U., 2201 W. Boulevard S.
Pingleton, Mrs. William, 113 Tracy Dr.
Plumlee, Mrs. John E., 2606 Summit Rd.
Ray, Mrs. G. Thorpe, 822 Greenwood Ct.
Ridings, Mrs. G. Ray, 810 Yale
Robnett, Mrs. Dudley A., 2103 S. Country Club Dr.
Rodgers, Mrs. Elrie, 202 S. Glenwood
Ross, Mrs. Gilbert, 300 McNabb Dr.
Sabates, Mrs. Felix, 308 Bourn Ave.
Scheuber, Mrs. Charles, 505 W. Boulevard S.
See, Mrs. William, 1611 University
Sheppard, Mrs. See C., Jr., 608 Manor Dr.
Sights, Mrs. Warren, 309 Tracy Dr.
Smith, Mrs. Grafton A., 917 Crestland
Smith, Mrs. J. Ned, Jr., 701 W. Boulevard S.
Smith, Mrs. Joe R., 222 E. Parkway
Spratt, Mrs. John, Jr., 204 Leslie La.
Spurgeon, Mrs. Mile, 404 Edgewood
Stephenson, Mrs. Hugh E., 1004 Falcon Dr.
Stewart, Mrs. William J., Route 5
Tinsley, Mrs. John C., 104 S. Glenwood
VanLeeuwen, Mrs. Gerald, 511 Westridge Dr.
VanPeenen, Mrs. Hubert J., 700 Westmount Ave.
Waggoner, Mrs. Charles, 712 Hilltop Dr.
Walters, Mrs. John, 1027 Hickory Hill Dr.
Watson, Mrs. Trevor F., 2319 Bluff Blvd.
Weiss, Mrs. James, Route 2
White, Mrs. J. Earl, 104 E. Parkway
Wilson, Mrs. George P., 918 Westwinds Dr.
Wilson, Mrs. Vernon, Route 4
Windmiller, Mrs. M. Eugene, 210 S. Glenwood
Wolcott, Mrs. Lester, 2417 Beachview Dr.

BUCHANAN COUNTY
(St. Joseph)

Acuff, Mrs. Robert P., 3015 Miller Rd. 64506
Baker, Mrs. W. C., Savannah, Mo. 64485
Beck, Mrs. Paul M., 3216 Coronado Rd. 64505
Beheler, Mrs. Edward M., 34 Ridgeland 64506
Benson, Mrs. Scott C., 1404 N. 26th St. 64506
Berney, Mrs. Francis J., 1225 N. 10th St. 64501
Bristow, Mrs. Robert B., 1610 Ashland 64506
Bryant, Mrs. Sydney L., 3902 N. 29th 64506
Butler, Mrs. E. F., 3110 Douglas 64506
Byrne, Mrs. J. I., 1915 Lovers Lane 64505
Callman, Mrs. George, State Hosp. 64502
Carle, Mrs. H. W., Jr., 2707 N. 26th 64506
Carpenter, Mrs. G. T., 2612 Indian Trial Dr. 64506
Chiarottino, Mrs. Joseph F., 11 Lindenwood La. 64505
Christ. Mrs. Martin H., 414 Benton Dr. 64504
Craig, Mrs. Owen W. D., 1625 Crescent Dr. 64506
Craig, Mrs. Richard D., 2900 Miller Rd. 64506
Curran, Mrs. Herbert, 2123 Newport Rd. 64505
Day, Mrs. Maxwell, 2111 Lovers La. 64505
DuMont, Mrs. Clement, 1905 Francis 64501
Durham, Mrs. S. L., Dearborn 64439
Fisher, Mrs. Joseph L., 2903 Ashland 64506
Forgrave, Mrs. John R., 2611 Cornell 64506
Forgrave, Mrs. Leon Paul, Hundley Dr. 64506
Forman, Mrs. George W., 2412 Ashland 64506
Grant, Mrs. Claude S., 7 Lindenwood Lane 64505
Gray, Mrs. W. W., 3102 S. 22nd 64503
Grimes, Mrs. Manning E., 815 N. Noyes Blvd. 64506
Gunter, Mrs. Joe S., 1609 Ashland 64506
Hartigan, Mrs. F. X., 1801 Ashland 64506
Hayes, Mrs. Paul W., 610 N. Noyes Blvd. 64506
Herman, Mrs. Allen I., 1909 N. 32nd 64506
Kieber, Mrs. R. W., 1915 N. 33rd 64506
Kline, Mrs. Edmund W., 17 Stonecrest 64506
Knepper, Mrs. Paul, 2002 Ashland 64506
Kulowski, Mrs. Jacob, 2515 Francis 64501
Lee, Mrs. Carleton H., 2716 Douglas 64506
Lehman, Mrs. Philip, 510 Francis 64501
Luckinbill, Mrs. Paul, Plattsburg 64477
Mabrey, Mrs. John P., Plattsburg 64477
Maginn, Mrs. R. L., 1813 Lovers Lane Hts., Plattsburg 64477
Marston, Mrs. F. James, 2114 Lovers La. 64505
Martin, Mrs. John, 9 Lindenwood La. 64505
McDaniel, Mrs. John R., 1808 N. 29th 64506
McDonald, Mrs. Wilbur P., 6 Country Club Rd. 64505
McGlothlan, Mrs. A. B., 821 N. 24th 64506
Meluney, Mrs. S. E., 1810 N. 30th 64506
Moen, Mrs. Berwyn H., 2214 Carper Dr. 64506
Morse, Mrs. Marvin W., 2702 Faraon 64501
Mothershead, Mrs. John L., 2630 Fairleigh Terr. 64506
Ness, Mrs. Carl K., 8 Lindenwood La. 64505
O'Connor, Mrs. William B., 2316 N. 22nd 64505
Ozenberger, Mrs. Larry, West Grogan St., Plattsburg 64477
Petersen, Mrs. Harold E., 2902 Frederick 64506
Pettit, Mrs. Manson B., 3315 Frederick 64506
Pfeffer, Mrs. Robert, 1915 N. 29th 64506
Potter, Mrs. Caryl, Jr., 2232 Eugene Field Ave. 64505
Potter, Mrs. Thompson E., 2106 Lovers La. 64505
Redmond, Mrs. William, 3102 Jule 64501
Riddell, Mrs. Richard V., 2610 Indian Trail Dr., 64506
Rogers, Mrs. John T., 2502 Ashland 64506
Rosenthal, Mrs. Irwin, 2715 Union 64506
Rost, Mrs. William B., 2221 Northwest Ext. 64506
Roundy, Mrs. Collis I., Rd. 2 64505
Saferstein, Mrs. T. H., 2903 Sherman 64504
Senne, Mrs. Herbert C., 1308 S. Noyes 64507
Shevlin, Mrs. Charles F., 804 N. 25th 64506
Sklenar, Mrs. Donald E., 3824 Mitchell 64506
Smith, Mrs. Clifton, 2821 Ashland 64506
Stallard, Mrs. Donald J., 1417 N. 25th 64506
Thomas, Mrs. Forrest, 1301 N. 25th 64506
Thompson, Mrs. F. Gregg, Jr., 631 Hall 64506
Tovar, Mrs. Manuel, 1707 Brookside Dr. 64506
Wadlow, Mrs. Ernest E., 2611 Lovers La. 64506
Waggoner, Mrs. Sharon E., 5920 S. 3rd 64504
Weed, Mrs. Randall W., 1821 Clay 64501
Weinand, Mrs. Ernest, 2806 Mulberry 64506
Whitsell, Mrs. Ora Earl, 2306 Sacramento 64507
Willman, Mrs. Charles, 2105 Lovers La. 64505
Willumsen, Mrs. Henry C., 2209 Eugene Field Ave. 64505

BULTER-RIPLEY-WAYNE COUNTIES
(Poplar Bluff 63901)

Barbour, Mrs. Marvin R., 1721 N. Main
Biggs, Mrs. Fred J., 808 N. Main
Caldwell, Mrs. Fred, 1705 Seifert Dr.
Dinelli, Mrs. Frank E., 427 N. Main
Engelhardt, Mrs. Robert C., 1513 Rosedale La.
Gernstetter, Mrs. S. L., P. O., Box 337
Hansbrough, Mrs. Eugene T., 1111 Fairmount
Hecker, Mrs. J. E., Route 1
Hoja, Mrs. W. Alexander, Route 2, Box 16
Kneibert, Mrs. F. L., Barron Rd.
Markel, Mrs. A. D., Jackson Rd.
McLain, Mrs. B. M., Route 2, Hwy. 67 S.
McLane, Mrs. Jerry F., 2107 Jackson Rd.
Miller, Mrs. David V., Hwy. 67 S., Route 5
Parker, Mrs. Arthur C., Jr., 708 Selma
Patrick, Mrs. Robert G., 1810 Big Bend
Post, Mrs. Cyril A., 960 Cynthia
Raper, Mrs. Charles A., Route 2, Box 17B
Robertson, Mrs. William D., 900 North
Ruff, Mrs. T. Eugene, 1411 Rosedale
Tapp, Mrs. Ernest M., 1401 Lurlyn Rd.
Tenpenny, Mrs. J. W., 804 Oak Hill Rd.
Tosh, Mrs. John W., 812 Oak Hill Rd.
Tuma, Mrs. A. T., 1601 Big Bend Rd.
Turner, Mrs. James H., Route 1
Turner, Mrs. William F., 1308 Nooney

CALLAWAY COUNTY
(Fulton 65251)

Brown, Mrs. John J., 1304 N. Vine
Cremer, Mrs. William J., State Hospital Dr.
Durst, Mrs. Henry, 1 Ivy Lane
Groce, Mrs. George, 1 Bartley Lane
Hill, Mrs. James E., Washington
Jackson, Mrs. Vernon, State Hospital Dr.
Kepler, Mrs. Earl C., 109 Reed
Osbourn, Mrs. Richard A., 503 Douglas Blvd.
Peterson, Mrs. Donald, Route 1
Ritterbusch, Mrs. James K., 2 Bartley Lane
Sydow, Mrs. Henry, 1014 Chippewa
Tellez, Mrs. Edward, 10 E. Reed St.
Tuttle, Mrs. Jay F., 4 Reed St.
Wood, Mrs. George F., 1700 Plaza Dr.

CAPE GIRARDEAU COUNTY
(Cape Girardeau 63701)

Alyea, Mrs. James, 1869 Drury Lane
Ashley, Mrs. Hugh V., Sr., 444 Marie
Ashley, Mrs. Hugh V., Jr., 1201 Perry
Bahn, Mrs. Charles, 2418 Brookwood
Barnes, Mrs. Seth S., 1854 Broadway
Blankenship, Mrs. Dale, 907 W. Cape Rock Dr.
Burford, Mrs. Edwin K., 2424 Terrie Hill Rd.
Campbell, Mrs. Edward, 1100 N. Henderson
Chapman, Mrs. Jean Allen, 1150 N. Henderson
Cochran, Mrs. Jo Robert, 2452 Brookwood
Crowe, Mrs. John, 1000 N. Henderson
Estes, Mrs. Albert, Highway 61
Hall, Mrs. Frank, Sylvan Lane
Herbert, Mrs. Charles, Sylvan Lane
Holcomb, Mrs. John K., 825 N. Fountain
Hoxworth, Mrs. Gerald, Oxford Dr.
Jaeger, Mrs. Joseph, Shady Lane
Johnson, Mrs. Earl Wayne, 1044 N. Henderson
Jung, Mrs. Marshall, Illmo 63754
Kasten, Mrs. Melvin C., 1209 Sailor Circle
Keim, Mrs. J. Harry, 643 N. West End Blvd.
Kinder, Mrs. James, 348 N. Park
Kratz, Mrs. Paul, 1720 Cecilia
Lovinggood, Mrs. Thomas, Sylvan Lane
Magaletta, Mrs. George, 957 Rodney Dr.
McDonald, Mrs. Eugene, 225 W. Main
McGinty, Mrs. Charles, 2435 Brookwood
Nunnelly, Mrs. Gordon, 1432 Themis
Nussbaum, Mrs. Paul, 209 Sunset Blvd.
Nussbaum, Mrs. Paul S., 1721 Crestwood
Oehler, Mrs. William, 1617 Themis
Otto, Mrs. Thomas, 511 Alta Vista
Parsons, Mrs. Leroy, 2021 Sherwood
Rapp, Mrs. Harold, 1011 N. Henderson
Rawlins, Mrs. Fred, 1651 Bertling
Reynolds, Mrs. Garland, 537 Alta Vista
Ridings, Mrs. Harold, 96 E. Cape Rock Dr.
Ritter, Mrs. Raymond, 1257 Rockwood
Seabaugh, Mrs. D. I. L., 922 W. Main St.
Seabaugh, Mrs. Loy, 334 N. Ellis
Seabaugh, Mrs. William, Route 2, Box 653
Shoss, Mrs. Milton, W. Cape Rock Dr.
Sparkman, Mrs. Thomas, 1629 Oxford Dr.
Stewart, Mrs. Wendell K., 2412 Lynnwood
Talbert, Mrs. Clifford R., 1947 Robin Hood Circle
Terry, Mrs. James W., 1413 Margaret
Tygett, Mrs. Glenn, 834 Alta Vista
Tygett, Mrs. Joseph, 1877 Oak Hill Dr.
Weeks, Mrs. George, 1728 Bessie
Williams, Mrs. W. A., Jr., 1236 Normal
Wilson, Mrs. Charles, Oak Lei Dr.
Wolff, Mrs. Paul, 90 E. Cape Rock Dr.

CLAY COUNTY
(Kansas City)

Adams, Mrs. Howard, 819 Nashau Rd., Route 1, Box 35 B 64058
Allain, Mrs. James J., 1050 W. 54th St. 64110
Armstrong, Mrs. Jay H., 4812 Black Swan Dr., 66616
Arst, Mrs. Herbert E., 7529 N. Tracy 64118
Balhuizen, Mrs. John, 11 Hill St. 64116
Bates, Mrs. G. Comer, 102 E. 43rd St. 64116
Boone, Mrs. Daniel, 5800 N. Grand 64118
Bowles, Mrs. Richard, 1950 Kings Highway, Liberty 64068
Burk, Mrs. E. K., 1 E. Briarcliff, 64116
Castillo, Mrs. Michael E., 2203 Scandia Dr., Apt. 112 64118
Chastain, Mrs. Maurice W., 3 E. 47th St. N. 64116
Chiles, Mrs. David R., Smithville 64089
Dwyer, Mrs. R. D., 1000 S. Woodland Dr. 64118
Edwards, Mrs. Theodore F., 2205 39th St. N. 64116
Fischer, Mrs. Edward H., 4218 New Briarcliff Lane 64116
Fowler, Mrs. I. Charles, 700 E. Barnes Ave. 64118
Gauer, Mrs. Robert J., 4916 N. Sherwood Dr. 64119
Hall, Mrs. James W., 4606 N. Cleveland 64117
Hayes, Mrs. Lawrence L., 1508 E. 51st N. 64118
Hedges, Mrs. Richard C., 530 Elms Blvd., Excelsior Springs 64024
Hendren, Mrs. Glen W., 516 W. Franklin, Liberty 64068
Hendren, Mrs. Thomas E., 1504 Nancy La., Liberty 64068
Hobbs, Mrs. Earl B., Smithville 64089
Hodge, Mrs. Robert H., 2204 E. 39th St. N. 64117
King, Mrs. Phillip, 1200 Middlebrook Dr., Liberty 64068
Kuenzi, Mrs. Donald E., 924 S. Woodland Dr. 64118
Langhus, Mrs. Melvin D., 104 W. Englewood Rd. 64118
McCormick, Mrs. James E. 309 Northcrest Dr. 64116
McCracken, Mrs. S. R., 810 Old Orchard, Excelsior Springs 64024
McPhee, Mrs. William R., 1205 W. 76th 64114
Mullins, Mrs. B. L., Route 29 64118
Musgrave, Mrs. David E., 420 N. Kimball, Excelsior Springs 64024
Parker, Mrs. Robert H., 112 E. 43rd St. N. 64116
Perry, Mrs. Lawrence L., Jr., 6300 N. Lenox 64151
Pileggi, Mrs. Felix A., 424 N.W. Briarcliff Rd. 64116
Revare, Mrs. Paul, 3245 Chippewa Dr. 64116
Roberts, Mrs. L. Marvin, 3906 E. 50th St. N. 64119
Robinson, Mrs. Van M., 413 W. 43rd Terrace N. 64116
Schertz, Mrs. Truman B., 428 N.W. Briarcliff Rd. 64116
Slaughter, Mrs. Carl, 6601 N. W. Hamer Dr. 64116
Spelman, Mrs. Arch E., Bridge St., Smithville 64089
Sportsman, Mrs. Weldon L., 6309 N. Grand 64118
Wald, Mrs. Donald, 4917 N. College Ave. 64119
Werner, Mrs. Dean F., 4609 N. Main 64116
Werner, Mrs. Franklin C., 422 Sagamore La. 64116
Williams, Mrs. John M., 616 Ridgeway Dr., Liberty 64068
Williams, Mrs. R. D., Smithville 64089
Withrow, Mrs. John B., 3925 N. Main, 64116

COLE COUNTY
(Jefferson City 65101)

Adams, Mrs. Charles F., 26 Hobbs Lane
Belinson, Mrs. Louis, 2008 Redwood Dr.
Bowe, Mrs. Edwin E., 401 Ridgeway
Bregant, Mrs. Robert, 1017 Laurel
Cox, Mrs, William A., 206 Swift's Highway
Dorris, Mrs. Richard P., 1104 Vineyard Sq.
Doyle, Mrs. Matthew J., 2311 Livingston
Enloe, Mrs. L. David, 1200 Moreland
Exon, Mrs. C. Stuart, Boonville Rd.
Fullgrabe, Mrs. Emil A., 1602 Taylor
Garner, Mrs. Lynn M., 403 Meier Dr.
Gordon, Mrs. James, 600 Boonville Rd.
Gove, Mrs. Herman S., 712 Broadway
Guhleman, Mrs. Henry V., Jr., 1710 Greenberry Rd.
Gurnee, Mrs. Landon H., 121 Westmore
Handler, Mrs. Fred P., 614 Boonville Rd.
Kanagawa, Mrs. Harold Hajime, 734 Houchin
Kelly, Mrs. Marshall W., 1610 Greenberry Rd.
Klebba, Mrs. Larry B., Highway 50 West
Leslie, Mrs. James P., 933 Fairmount
Leslie, Mrs. James T., Jr., 1552 Brookside Blvd.
Loyd, Mrs. Earl L., 114 Binder Dr.
McHaney, Mrs. John W., Highway 50 West
McKnelly, Mrs. Willian V., 1204 Lee
Matthews, Mrs. John I., 1310 Moreau Dr.
Meier, Mrs. Francis X., 1913 Hayselton Dr.
Meinershagen, Mrs. Charles W., 138 Forest Hill
Melia, Mrs. Bernard, 1507 Moreland
Ossman, Mrs. Julian A., 1505 W. Main
Ringo, Mrs. Henry, Centertown 65023
Russell, Mrs. Joseph P., 1517 Greenberry Rd.
Sanders, Mrs. Jack Shelby, 2008 Livingston Dr.
Scott, Mrs. David, 803 Mohawk
Sennott, Mrs. John Stephen, 102 Douglas Dr.
Shull, Mrs. G. Donald, 1925 Hayselton Dr.
Stauffer, Mrs. Harry Beach, 1906 Chicago Rd.
Stephen, Mrs. August P., 90 W. Circle Dr.
Stricker, Mrs. Harold C., 1205 Moreau Dr.
Sugarbaker, Mrs. Everett D., 2113 W. Main
Summers, Mrs. Joseph S., Jr., 2313 W. Main
Tanner, Mrs. Robert H., 1606 Greenberry Rd.
Taylor, Mrs. Leon A., 1104 W. Main
Tietjen, Mrs. Fred C., 7 Greentree Rd.
Watts, Mrs. Byron Edward, 2112 Forest Dr.
Winegar, Mrs. Alvon C., 222 Swift's Highway

COOPER COUNTY
(Boonville 65233)

Abele, Mrs. William Arved, Krohn Dr.
Avery, Mrs. Willard Bartlett, 20 Crestview
Beckett, Mrs. Theodore Cooper, 725 4th St.
Diekroeger, Mrs. Manuel Louis, Maplewood, Route 1
Draper, Mrs. Bernard Lee, 8 Boler Dr.
Hata, Mrs. Daikichi, 7 Morningside Dr.
Humphreys, Mrs. Edward Tristran, 1123 3rd St.
Stuart, Mrs. Byron McClellan, 910 Shamrock Terr.
Winn, Mrs. George Warren, 607 Poplar St.
Zeigler, Mrs. William Henry, Weyland Dr.

DUNKLIN COUNTY
(Kennett 63857)

Baldwin, Mrs. Paul, 200 W. Washington
Benson, Mrs. Leo J. J., 204 Wiggs
Cash, Mrs. Charles R., 800 College
Croom, Mrs. D. W., 411 W. Park
Dunmire, Mrs. George Q., 504 S. Baker Dr.
English, Mrs. W. D. Cardwell, Mo.
Joffee, Mrs. Erwin, Paragould, Ark. 72450
Miltenberger, Mrs. Paul C., 705 W. Washington
Morehead, Mrs. William Edward, Malden 63863

Palenske, Mrs. R. L., Box 57, Hornersville 63855
Spence, Mrs. E. L., 301 College
Tarver, Mrs. Quinton, 1004 W. Washington
Zimmerman, Mrs. Joe A., 906 W. Washington

FRANKLIN-GASCONADE-WARREN COUNTIES

Baker, Mrs. Donald L., Porter Ford Rd. 63084
Bonney, Mrs. Sam, Washington 63090
Bozzo, Mrs. Raymond J., 408 W. Second St., Washington 63090
Brenner, Mrs. Paul A., 108 W. Washington Ave., Owensville 65066
Denny, Mrs. H. M., Union 63084
Eisenmann, Mrs. B. P., New Haven 63068
Eyermann, Mrs. Walter, Warrenton 63383
Giem, Mrs. R. N., 679 Fisher Dr., Sullivan 63080
Hoelscher, Mrs. H. F., Hickory Haven, Warrenton 63383
Moellenhoff, Mrs. Robert, James St., Washington 63090
Muench, Mrs. Ludwig O., 1530 Riverview Dr., Washington 63090
Reed, Mrs. Dorris, 221 Locust, Washington 63090
Richardson, Mrs. G. A., Union 63084
Richardson, Mrs. W. R., Box 228, Union 63084
Riffel, Mrs. Gordon W., Bourbon
Ryan, Mrs. J. B., Cedar St., Washington 63090
Shaw, Mrs. Carvel T., 1008 Washington, Hermann 65041
Strehlman, Mrs. B. G., 510 West End Ave., Union 63084

GRAND RIVER COUNTIES
(Caldwell-Carroll-Livingston-Grundy-Daviess-Harrison-Linn-Mercer-DeKalb Counties)

Bales, Mrs. Eugene, 502 W. 3rd Terr., Carrollton 64633
Bohnsack, Mrs. Ralph, 635 Skyline Dr., Brookfield 64628
Broyles, Mrs. Watkins T., Bethany 64424
Clark, Mrs. Chester, 13 Town & Country, Trenton 64683
Conrad, Mrs. Joseph, 1202 Jackson, Chillicothe 64601
Cross, Mrs. Albert, 902 W. 17th, Trenton 64683
Daley, Mrs. Frank, 508 E. Sammuel, Hamilton 64644
Dixon, Mrs. John, 1005 Brookfield, Brookfield 64628
Dowell, Mrs. Donald, 1830 Calhoun, Chillicothe 64601
Ellsworth, Mrs. Willard, Cainsville 64632
Fair, Mrs. William, 1705 Calhoun, Chillicothe 64601
Fuson, Mrs. William, 520 Pleasant View, Trenton 64683
Gale, Mrs. Joseph, 1710 Polk, Chillicothe 64601
Gary, Mrs. George, 112 W. Houser, Marceline 64658
Gearhart, Mrs. Merriam, 2100 Beekman, Bethany 64424
Horner, Mrs. Glennon, W. Walker, Marceline 64658
Howell, Mrs. Billy, 157 Hunt, Brookfield 64628
Mairs, Miss Catherine, 412 E. 7th, Trenton 64683
Mandler, Mrs. George, 1616 Clay, Chillicothe 64601
Platz, Mrs. John, 804 N. Main, Carrollton 64633
Smith, Mrs. Robert, 509 E. Houser, Marceline 64658
Sweiger, rs. James, aysville 64469
Vandiver, Mrs. V. D., 1836 Polk, Chillicothe 64601
Vinyard, Mrs. Jack, RFD, Carrollton 64633

GREENE COUNTY
(Springfield)

Allen, Mrs. Jerry H., 1324 S. Fairway Terr. 65804
Anthony, Mrs. Dallas D., 1322 S. Pickwick 65804
Ash, Mrs. Charles J., 743 Riverside 65804
Ashley, Mrs. Thomas E., 2740 Pythian 65802
Atkinson, Mrs. Thomas E., Route 9, Box 81A 65804
Baldwin, Mrs. Richard M., 2033 Prairie Lane 65804
Bareis, Mrs. Robert, 408 N. Locust 65706
Blades, Mrs. Ross, 2845 E. University 65804
Bonebrake, Mrs. McDonald D., 1443 S. Delaware 65804
Broaddus, Mrs. Loren, 2017 So. Link 65804
Brown, Mrs. Lyman, 1410 N. Rogers 65802
Burkey, Mrs. Jordon W., 2405 Sheridan 65804
Busiek, Mrs. Urban J., 1635 E. Walnut 65802
Callaway, Mrs. Guy, Jr., 901 E. Portland 65804
Callaway, Mrs. Guy D., 1155 S. Delaware 65804
Cheek, Mrs. Anne C., 1535 E. Meadowmere 65804
Christy, Mrs. Raymond A., 2868 Eastmoor 65804
Ciccone, Mrs. Pasquale, U. S. Medical Center 65801
Cieslak, Mrs. Frederick, 3107 S. Ferguson 65802
Clarke, Mrs. Michael J., 2416 Brentwood 65804
Clary, Mrs. Wm. W., 2259 Mirabeau 65804
Clayton, Mrs. Edgar L., 2446 Brentwood 65804
Cochran, Mrs. Thomas E., 2423 Brentwood 65804
Coller, Mrs. Frederick B., 2433 Marlan 65804
Cox, Miss Eleanor, 1072 Roanoke 65804
Crawford, Mrs. Oral B., Route 1, Box 443 65803
Dietz, Mrs. M. Wendell, 2540 Edgewater 65804
Dillard, Mrs. Erin M., 2530 S. Marlan 65804
Dolan, Mrs. Daniel L., 2300 Maryland 65804
Dubin, Mrs. Samuel, 605 Westview Dr. 65801
Duncan, Mrs. Robert D., 1234 E. Loren 65804
Eastwood, Mrs. Robert A., 3043 Wilshire 65804
Elkins, Mrs. Ronald F., 2830 E. Glenwood 65804
Ellis, Mrs. Francis J., 2235 E. Glenwood 65804
Evans, Mrs. Ezra L., 1260 E. Catalpa 65804
Farthing, Mrs. F. R., 1234 E. Walnut 65802
Farthing, Mrs. Gene W., 1235 E. Walnut 65802
Ferguson, Mrs. John P., 1219 S. Clay 65804
Ferguson, Mrs. Mary V., c/o Mercy Villa, 1015 No. Main 65804
Ferrell, Mrs. Thomas E., 1525 E. Meadowmere 65804
Fessenden, Mrs. Ersel M., 634 E. Kingsbury 65804
Fitch, Mrs. Max, 2523 S. Marlan 65804
Francis, Mrs. William C., 2820 E. Glenwood 65804
Freeman, Mrs. S. F., 1339 S. Pickwick 65804
German, Mrs. Walter A., Jr., 2659 Luster 65804
Giddings, Mrs. Frank C., 1211 S. Pickwick 65804
Glynn, Mrs. Robert R. 1101 Benton 65802
Gorelick, Mrs. David F., 1041 Linwood Terr. 65804
Gose, Mrs. Don F., 1339 S. Delaware 65804
Griot, Mrs. Mary J., 1640 E. Sunshine 65804
Hahn, Mrs. Andrew L., 2639 S. Luster 65804
Hall, Mrs. David W., 2122 Wayland Dr. 65804
Hall, Mrs. Durward G., 2442 S. Fremont 65804
Hanan, Mrs. Ernest B., 724 E. Kingsbury 65804
Hanss, Mrs. Armand W., Route 9, Box 604 65804
Harvey, Mrs. Harold D., 2531 Brentwood 65804
H'Doubler, Mrs. Alice, Route 7, Box 207 65802
H'Doubler, Mrs. Charles E., 1421 Bedford Rd. 65804
H'Doubler, Mrs. F. T., Jr., 2336 E. Glenwood 65804
H'Doubler, Mrs. Peter B., 1137 S. Pickwick 65804
Hildreth, Mrs. Arthur M., 3301 S. Dayton 65802
Hollis, Mrs. Richard, 2178 Catalina 65804
Holmes, Mrs. Daniel E., 2115 S. Cedarbrook 65804
Holmes, Mrs. David R., 2321 S. Cedarbrook 65804
Horton, Mrs. James D., 1235 E. Delmar 65804
Hubbell, Mrs. Ira G., 1217 E. Minota 65804
Hulstra, Mrs. Han F. W., 2652 S. Luster 65804
Jameson, Mrs. James E., 1210 S. Weller 65804
Johnson, Mrs. George A., 2349 Edgewood 65804
Johnson, Mrs. Warford B., 2244 Edgewood 65804
Johnson, Mrs. Willian F., 973 E. Linwood Dr. 65804
Johnston, Mrs. Joseph L., 2855 Southern Hills 65804
Jorel, Mrs. Louis E., 1822 S. National 65804
Key, Mrs. James S., 2278 Englewood 65801
Klingner, Mrs. George M., Turners 65765
Klingner, Mrs. T. O., 1529 E. Elm 65804
Knabb, Mrs. Kenneth E., 1229 E. Catalpa 65804
Kolze, Mrs. Vernon W., 1854 Valley Rd. 65804
Langston, Mrs. W. Roland, 1453 S. Fairway 65804
Lemmon, Mrs. G. Bruce, 1462 Virginia 65804
Lewis, Mrs. Noel Rex, Route 9, Box 288 65801
Litton, Mrs. Lyle D., 3044 Shalimar 65804
Lockhart, Mrs. Charles E., 1600 E. Catalpa 65804
Lorenc, Mrs. Ernest, 2454 Luster 65804
Lurie, Mrs. Harold H., 2440 Skyline Dr. 65804
Maple, Mrs. Francis M., 2115 E. Edgewood 65804
Maples, Mrs. Ruth, 1923 Ventura 65804
McAlhany, Mrs. Howard J., 1643 E. Catalpa 65804
McKinsey, Mrs. John J., 2504 S. Franklin 65804
Menchetti, Mrs. Don E., 2049 Roanoke 65804
Moore, Mrs. De A., U. S. Med. Center 65802
Moseley, Mrs. F. Thomas, 2837 Lomita Circle 65804
Napper, Mrs. Marvin L., Route 1, Ash Grove 65604
Pipkin, Mrs. Anna, c/o Mary E. Wilson Home, 924 N. Main 65802
Palcheff, Mrs. Chris L., Route 9, Box 400L 65801
Park, Mrs. William I., 815 E. Portland 65804
Penninger, Mrs. William H., 2246 Claiborne 65804
Peterson, Mrs. Stanley S., 721 E. Stanford 65804
Podrecca, Mrs. Guidd I., 2550 Brentwood 65804
Polk, Mrs. John W., 1463 E. Meadowmere 65804
Prater, Mrs. Bill George, 3000 Carlisle Cir. 65804
Pruett, Mrs. Paul L., 1036 E. Sunshine 65804
Sala, Mrs. Jose M., 2848 LaMonta Dr. 65804
Schaeffer, Mrs. Edward M., 2218 Shady Glenn 65804
Schroff, Mrs. Carle H., 2448 E. Broadmoor 65804
Schwartz, Mrs. Eugene J., 1315 E. Loren 65804
Schweitzer, Mrs. Fred C., 2550 Luster 65804
Siceluff, Mrs. Joseph G., Route 9, Box 84M 65804
Silsby, Mrs. Don J., 932 S. Pickwick 65804
Silsby, Mrs. Harry D., 1369 S. Fairway 65804

Simpson, Mrs. Albert P., 2202 Barataria 65804
Simpson, Mrs. E. L., 2133 Meadowview 65804
Snead, Mrs. William H., 2532 Sheridan 65804
Stewart, Mrs. Robert B., 2360 E. Grand 65804
Stufflebaum, Mrs. Robert E., 2248 Mirabeau 65804
Sturtevant, Mrs. Harwood N., 2859 Utica Terr. 65804
Tarrasch, Mrs. Ernest L., 2114 Langston 65804
Thomasson, Mrs. David D., 2311 E. Glenwood 65804
Tillman, Mrs. Walter W., 1220 E. Loren 65804
Tombridge, Mrs. T. L., 2019 Holly Circle 65801
Trotter, Mrs. W. Yates, 910 E. University 65804
Tsang, Mrs. John L. K., 2524 Cedarbrook 65804
Turner, Mrs. Glenn O., 1462 S. Dollison 65804
Vensel, Mrs. Lee H., Jr., 2255 Meadowview 65804
Waddell, Mrs. Kenneth, 1126 S. Kentwood 65804
Wakeman, Mrs. J. N., 1402 E. Meadowmere 65804
Walker, Mrs. William M., 1930 Arcadia 65804
Warres, Mrs. Herbert L., 2614 Englewood Rd. 65801
Williams, Mrs. John W., 2245 Fritts La. 65804
Wilson, Mrs. Roy E., 2160 Barataria 65804
Wise, Mrs. Gordon F., 2850 Southern Hills 65804
Wittmer, Mrs. Samuel C., 2314 E. Washita 65804
Wood, Mrs. William W., Route 2, Box 101 65804
Woolridge, Mrs. Wilfred E., 1126 E. Stanford 65804
Yancey, Mrs. Daniel L., 1133 S. Weller 65804

JACKSON COUNTY (Kansas City)

Abella, Mrs. Terry K., 8967 E. 62nd Terr., Raytown 64133
Adelman, Mrs. Arthur, 333 W. Meyer Blvd. 64113
Agee, Mrs. Loren Glenn, 2001 Stratford Rd. Shawnee Mission, Kan. 66208
Aks, Mrs. Daniel, 6009 W. 99th St., Shawnee Mission, Kan. 66207
Alleback, Mrs. Hobart K. B., 3810 W. 65th Terr., Shawnee Mission, Kan. 66208
Allen, Mrs. Charles H., 616 W. Maple, Independence 64050
Allen, Mrs. William Bayne, 2901 W. 63rd St., Shawnee Mission, Kan. 66208
Alsop, Mrs. Webb S., Jr., 3604 W. 53rd, Shawnee Mission, Kan. 66205
Altomare, Mrs. Edward P., 1030 W. 65th St. 64113
Altringer, Mrs. Arthur N., 5630 Mission Dr., Shawnee Mission, Kan. 66208
Ammatelli, Mrs. F. J., 605 E. 66th 64131
Anderson, Mrs. Raymond B., Shawnee Mission, Kan. 66208
Anderson, Mrs. Richard W., 1001 Romany Rd. 64113
Andrus, Mrs. Bailey C., 6508 Overbrook Rd., Shawnee Mission, Kan. 66208
Arms, Mrs. Arnold V., 6421 High Dr., Shawnee Mission, Kan. 66208
Aschmann, Mrs. T. H., 8740 Brooklyn 64130
Asher, Mrs. A. Graham, 5410 State Line Rd., Shawnee Mission, Kan. 66208
Atcheson, Mrs. Bellfield, 6524 Overhill Rd, Shawnee Mission, Kan. 66208
Atwell, Mrs. Floyd C., 630 W. 60th Terr. 64113
Averill, Mrs. Keith H., 9616 Riggs, Overland Park, Kan. 66212
Bachman, Mrs. Paul L., 1206 W. Truman Rd., Independence 64050
Baer, Mrs. Alvin J., 5800 Howe Dr., Shawnee Mission, Kan. 66205
Baker, Mrs. Philip J., 11440 E. 47th St. 64133
Ballard, Mrs. V. Bryce, 6618 Rainbow, Shawnee Mission, Kan. 66208
Bare, Mrs. Chester I., 10501 E. 78th Terr. 64133
Barelli, Mrs. Pat A., 5609 Mission Dr., Shawnee Mission, Kan. 66208
Barloon, Mrs. James H., 612 E. 66th 64113
Barker, Mrs. James B., 8101 Dearborn, Shawnee Mission, Kan. 66208
Barnard, Mrs. John L., 444 W. 67th St. 64113
Barnett, Mrs. Gordon P., 6568 High Dr., Shawnee Mission, Kan. 66208
Barry, Mrs. John W., 5510 W. 84th St., Overland Park, Kan. 66207
Barry, Mrs. William B., 4600 Nichols Parkway 64112
Bass, Mrs. Walter R., 7202 Manchester Ave. 64133
Bay, Mrs. Merrill R., Woods Chapel Rd., Blue Springs 64015
Becker, Mrs. Rolfe A., 5808 W. 94th Terr., Overland Park, Kan. 66204
Becker, Mrs. R. R., 5622 Holmes St. 64110
Bell, Mrs. William F., 415 S. Grand, Lee's Summit 64063
Bennett, Mrs. J. D., 3216 W. 69th, St., Shawnee Mission, Kan. 66208
Benoit, Mrs. Hector W., Jr., 2501 W. 64th St., Shawnee Mission, Kan. 66208
Berenson, Mrs. Sheldon E., 832 W. 63rd St. 64113
Bernreiter, Mrs. Michael, 1246 W. 63rd St. 64113
Berry, Mrs. G. Neill, 5650 High Dr., Shawnee Mission, Kan. 66208
Berry, Mrs. Maxwell G., 5020 Summit 64112
Biggs, Mrs. Alfred D., Jr., 7330 Rosewood, Prairie Village, Kan. 66208
Bikales, Mrs. Victor W., 5810 High Dr., Prairie Village, Kan. 66208
Bills, Mrs. Marvin L., 3309 W. 68th St., Shawnee Mission, Kan. 66208
Black, Mrs. Don A., 2700 W. 67th, Prairie Village, Kan. 66208
Black, Mrs. Eugene C., 3201 W. 67th St., Shawnee Mission, Kan. 66208
Blim, Mrs. Richard Don, 2209 W. 68th, Shawnee Mission, Kan. 66208
Bohan, Mrs. Peter T., 4545 Wornall Rd. 64111
Bordy, Mrs. Marvin D., 8710 Belleview 64114
Botwin, Mrs. Arnold E., 6010 Cherokee Dr., Shawnee Mission, Kan. 66205
Boughnou, Mrs. Harvey, 660 W. 61st Terr. 64110
Bourke, Mrs. Timothy S., 601 E. Meyer Blvd. 64131
Bowser, Mrs. John F., 3701 Madison 64111
Brams, Mrs. Jack B., 5050 Oak 64112
Braverman, Mrs. Abe Elliott, 2701 W. 68th, Shawnee Mission, Kan. 66208
Bridgens, Mrs. James G., 1025 Huntington Rd. 64113
Brown, Mrs. Adrian J., 12 E. 63rd St. 64113
Brown, Mrs. William R., 8124 Lee Blvd., Shawnee Mission, Kan. 66206
Brumm, Mrs. L. W., 7421 Wyoming 64114
Bruner, Mrs. Robert E., 912 Valentine Rd. 64111
Brust, Mrs. Carl H., 6114 Howe Dr., Shawnee Mission, Kan. 66205
Buckner, Mrs. Robert C., 3507 W. 87th St., Leawood, Kan. 66206
Budke, Mrs. Harold A., 1219 W. 66th Terr. 64113
Buhler, Mrs. Victor B., 5212 Bellview 64112
Bunting, Mrs. Williston P., 1231 W. 62nd 64113
Butcher, Mrs. Robert W., 1101 W. 86th Terr. 64114
Byers, Mrs. Philip, 5832 High Dr., Shawnee Mission, Kan. 66208
Caffrey, Mrs. Raymond J., 1313 W. Red Bridge Rd. 64114
Caldwell, Mrs. John K., 436 E. 65th Terr. 64131
Campbell, Mrs. Frederick B., 1032 W. 55th St., 64113
Campbell, Mrs. John G., 3509 W. 84th Terr., Prairie Village, Kan. 66206
Carmichael, Mrs. Francis A., 5841 High Dr., Shawnee Mission, Kan. 66208
Casady, Mrs. Gilbert N., 9830 Aberdeen Dr., Shawnee Mission, Kan. 66206
Casford, Mrs. Ralph, 1236 W. 72nd St. 64114
Chambers, Mrs. James Q., Sr., 4600 J. C. Nichols Pkwy. 64112
Cheeseman, Mrs. William B., 5302 W. 79th Terr., Prairie Village, Kan. 66208
Childs, Mrs. Richard M., 3901 W. 98th Terr., Overland Park, Kan. 66208
Clark, Mrs. Irving H., 2811 Blue Ridge Ext., Grandview 64030
Coburn, Mrs. Donald F., 5620 Mission Dr., Shawnee Mission, Kan. 66205
Cochrane, Mrs. Joseph J., 3301 W. 68th, Shawnee Mission, Kan. 66208
Cockerell, Mrs. Sanford F., 3501 S. Crysler, Independence 64050
Coffey, Mrs. Ralph R., 814 Rockwell La. 64112
Cohen, Mrs. Harry K., 417 W. 70th St. 64113
Cohen, Mrs. Hilliard, 1291 W. 72nd Terr. 64114
Colom, Mrs. George A., 4002 W. 56th, Shawnee Mission, Kan. 66205
Connell, Mrs. Evan S., 837 W. 58th Terr. 64112
Cooper, Mrs. Charles S., 1035 W. Meyer Cir. 64113
Cox, Mrs. Kenneth E., 5640 Pembroke La., Prairie Village, Kan. 66208
Cox, Mrs. William L., 1465 Spruce Ave., Liberty 64068
Crockett, Mrs. James, 5400 W. 83rd St., Prairie Village, Kan. 66208
Cross, Mrs. Walter M., 310 W. 49th St. 64112
Culbertson, Mrs. William F., 1253 Huntington Rd. 64113
Curran, Mrs. Desmond, 6626 Wenonga Terr., Prairie Village, Kan. 66208
Curts, Mrs. Calvin J., 808 W. 67th Terr. 64131
Dann, Mrs. David S., 1215 W. 67th St. 64113
Davis, Mrs. Donald R., 2501 W. 67th St., Shawnee Mission, Kan. 66208
Davis, Mrs. Herbert V., 4601 Holmes 64110
Davis, Mrs. Jack M., 7110 Harecliff Dr. 64133
Davis, Mrs. Robert C., 659 W. 61st Terr. 64113
Dermott, Mrs. John D., 4402 Homestead Dr., Prairie Village, Kan. 66208
Demotte, Mrs. John A., 1247 W. 56th St. 64113
Dennis, Mrs. Charles C., 2600 Verona Rd., Shawnee Mission, Kan. 66208
Dixon, Mrs. V. L., 2501 W. Paseo 64108
Dlabal, Mrs. L. J., 3729 Blue Ridge Blvd., Independence 64052
Doane, Mrs. William L., 1102 130th St., Grandview 64030
Dodge, Mrs. Mark, 5820 State Line Rd., Shawnee Mission, Kan. 66208
Dolezal, Mrs. Joseph B., 7928 Outlook, Prairie Village, Kan. 66202
Dorsch, Mrs. E. H., 3516 Claremont, Independence 64052
Downey, Mrs. James W., 2400 W. 51st Terr., Shawnee Mission, Kan. 66205
Drake, Mrs. Roy F., 6600 Outlook, Shawnee Mission, Kan. 66202
Draney, Mrs. Thomas L., 6415 Main St. 64113
Drisko, Mrs. Robert M., 2100 Stratford Rd., Shawnee Mission, Kan. 66208
Duncan, Mrs. Wm. H., Jr., 808 W. 69th St. 64113
Durnell, Mrs. Monaford D., 1011 W. 1st St., Lee's Summit 64063
Edmonds, Mrs. D. D., 9009 Mission Rd., Leawood, Kan. 66206
Eiseman, Mrs. Gustave, 7908 Campbell 64131
Elias, Mrs. David J., 10300 Sheley Rd., Independence 64053
Elliott, Mrs. R. Glen, 6136 Reinhardt Dr., Shawnee Mission, Kan. 66205
Elser, Mrs. Otto H., 604 Rankin Rd., Independence 64050
Engelking, Mrs. David F., 6504 Claremont, Raytown 64133
Engelmann, Mrs. Calvin E., 4916 W. 57th Terr., Shawnee Mission, Kan. 66205
Etzenhouser, Mrs. Merrill, 1215 W. 35th Terr., Independence 64050
Etzenhouser, Mrs. Russell D., 1317 W. College, Independence 64050
Eubank, Mrs. Dillard M., 6020 Elm 64133
Eubank, Mrs. Will R., 6113 La. 64133
Eubank, Mrs. William Y., 6411 Morningside Dr., 64113
Farley, Mrs. Claude C., 3312 W. 87th, Leawood, Kan. 66206

Farney, Mrs. Jacob P., 2721 W. 69th St., Shawnee Mission, Kan. 66208
Farnsworth, Mrs. Jesse J., 5608 Fairway, Shawnee Mission, Kan. 66205
Feierabend, Mrs. Frank L., 7345 Wyoming 64114
Ferguson, Mrs. Eugene H., 333 W. Meyer Blvd., Apt. 504 64113
Ferguson, Mrs. James T., 718 E. Armour 64109
Ferris, Mrs. Carl R., 629 W. 70th Terr. 64113
Finkle, Mrs. Robert H., 7507 E. 80th Terr., Raytown 64052
Fitzgerald, Mrs. Robert H., 2700 W. 69th St., Shawnee Mission, Kan. 66208
Flanders, Mrs. Horace F., 3820 W. 65th Terr., Shawnee Mission, Kan. 66208
Flanders, Mrs. Virgil, 3304 W. 87th St., Leawood, Kan. 66206
Folck, Mrs. William P., 5804 Linden Rd., N.W., Parkville 64151
Forman, Mrs. Louis H., 2801 W. 67th St., Shawnee Mission, Kan. 66208
Forsythe, Mrs. Robert W., 6457 Verona Rd., Shawnee Mission, Kan. 66208
Foster, Mrs. Hal, 5050 Oak St., Apt. 1028 64112
Fouts, Mrs. Dallas, Sr., 13101 E. 43rd St., Independence 64050
Fowler, Mrs. Fred D., 1231 W. 56 64110
Fowler, Mrs. James W., 200 W. 53rd Terr. 64112
Fredeen, Mrs. Robert C., 5437 Canterbury Rd., Shawnee Mission, Kan. 66205
Frick, Mrs. J. Paul, 116 Huntington Rd. 64113
Friedman, Mrs. Morris L., 2516 W. 69th St., Shawnee Mission, Kan. 66208
Fritzlen, Mrs. Thomas J., 6848 Locust 64131
Fuhrman, Mrs. Donald L., 3417 W. 68th St., Prairie Village, Kan. 66208
Fulton, Mrs. Albert E., 9501 Madison Ave. 64114
Fury, Mrs. Tex E., 642 Huntington Rd. 64113
Gainey, Mrs. Harold L., 4907 Sunset Dr. 64112
Ganley, Mrs. Wm. Coyle, 8400 Overhill Dr. 64138
Gard, Mrs. Raymond F., 11530 Winner Rd., Independence 64052
Garrison, Mrs. Roy R., 404 W. 67th Terr. 64113
Geha, Mrs. Braham J., 9814 Lee Blvd., Leawood, Kan. 66206
Gestring, Mrs. Hugh A., 3915 W. 93rd Terr., Shawnee Mission, Kan. 66207
Gibson, Mrs. David M., 5318 Sunset Dr. 64112
Gilkey, Mrs. Harry M., 4941 Westwood Rd. 64112
Gillmor, Mrs. C. Stewart, 420 E. Armour 64109
Ginardi, Mrs. Donald E., 4615 Gennessee 64112
Ginsberg, Mrs. Norman A., 1220 W. 67th St. 64113
Gist, Mrs. W. W., 1208 W. 58th St. 64113
Goldman, Mrs. Stanley, 5734 Windsor Dr., Shawnee Mission, Kan. 66205
Goldsich, Mrs. Edward, 5515 W. 81st St., Prairie Village, Kan. 66208
Goldstein, Mrs. Marvin F., 400 E. 91st St. 64131
Goodman, Mrs. Leroy, 2119 W. 70th Terr., Shawnee Mission, Kan. 66208
Goodson, Mrs. W. H., Jr., 46 E. 54th St. 64112
Gordon, Mrs. Morris P., 7617 Aberdeen, Shawnee Mission, Kan. 66208
Gottsch, Mrs. Joseph C., 7904 Granada, Prairie Village, Kan. 66208
Grakske, Mrs. Charles F., 14203 Kentucky Rd., Independence 64050
Graham, Mrs. Wallace H., 5157 Ward Pkwy. 64112
Green, Mrs. John R., 3424 Norton, Independence 64052
Green, Mrs. John Richard, 3143 Santa Fe Terr., Independence 64050
Greene, Mrs. W. Wallace, 2008 W. 68th St., Shawnee Mission, Kan. 66208
Griffith, Mrs. John A., Jr., 6500 Granada Dr., Shawnee Mission, Kan. 66208
Growdon, Mrs. John A., 1207 Stratford Rd. 64113
Guastello, Mrs. M. J., 4124 W. 95th, Apt. 110, Shawnee Mission, Kan. 66207
Gullett, Mrs. Charles C., 8815 W. 72nd Terr., Shawnee Mission, Kan. 66204
Gundle, Mrs. Sigmund, 5926 Windsor Dr., Shawnee Mission, Kan. 66205
Habib, Mrs. Henry N., 440 E. 74th Terr. 64131
Haight, Mrs. John M., 5609 Blue Ridge Blvd. 64133
Hall, Mrs. Thomas B., 4550 Warwick Blvd., Apt. 504 64111
Halperin, Mrs. Phillip H., 1011 W. 56th 64113
Hamel, Mrs. Herbert A., 6441 High Dr., Shawnee Mission, Kan. 66208
Hamill, Mrs. Robert W., 6945 Nieman Rd., Shawnee Mission, Kan. 66203
Harless, Mrs. Morris S., 6844 Cherry 64131
Harrin, Mrs. William R., 119 W. 116th 64114
Hartwig, Mrs. Fred H., 5204 Pawnee Dr., Shawnee Mission, Kan. 66205
Hartwig, Mrs. Raymond W., 3110 Tomahawk, Shawnee Mission, Kan. 66208
Hausheer, Mrs. Herman, 12900 36th Terr., Independence 64050
Haynes, Mrs. Solon E., 5306 Holmes 64110
Heller, Mrs. B. Marcus, 627 W. 68th Terr. 64113
Helman, Mrs. Richard G., 6540 Wenonga Rd., Shawnee Mission, Kan. 66208
Henry, Mrs. S. David, Lake Quivira, Route 2, Kansas City, Kan. 66106
Herrman, Mrs. George V., 8331 Maple La., Overland Park, Kan. 66207
Hess, Mrs. Paul D., 8423 High Dr., Leawood, Kan. 66206
Hibbard, Mrs. Blaine Z., 5211 Sunset Dr. 64112
Hickerson, Mrs. William H., 4207 S. Crysler, Independence 64050
Hill, Mrs. J. H., 8115 Meadow La., Leawood, Kan. 66206
Hink, Mrs. Fred W., 524 S. Hardy, Independence 64053
Hoadley, Mrs. William D., 9625 Beverly, Shawnee Mission, Kan. 66202
Hodgson, Mrs. Frank H., 1049 W. 55th 64113
Hoeper, Mrs. Samuel D., 12921 Grandview Rd., Grandview 64030
Hoffman, Mrs. J. S., 5820 Cherokee Dr., Shawnee Mission, Kan. 66205
Hollweg, Mrs. Kenneth C., 808 W. Meyer Blvd. 64113
Holton, Mrs. Edward B., 2817 Westport Rd., Independence 64052
Hook, Mrs. Waller G., 9238 State Line, Leawood, Kan. 66206
Howard, Mrs. Joseph W., 6026 McGee 64113
Hungate, Mrs. Carroll P., 6845 Oak 64113
Hunt, Mrs. Claude J., 615 W. 56th St., 64113
Hunt, Mrs. Thomas R., 5804 El Monte Dr., Shawnee Mission, Kan. 66205
Hunter, Mrs. Martin P., 4100 W. 93rd, Shawnee Mission, Kan. 66207
Hunzicker, Mrs. Warren J., 1248 Stratford Rd. 64113
Hustead, Mrs. Robert, 9510 Belinder Rd., Leawood, Kan. 66206
Ingham, Mrs. Walton C., 9723 Overbrook Rd., Leawood, Kan. 66206
Irwig, Mrs. Fred, 5109 W. 87th St., Shawnee Mission, Kan. 66207
Jackson, Mrs. Jabez N., 2200 W. 50th Terr., Shawnee Mission, Kan. 66205
Jacob, Mrs. Walter P., 1002 Romany Rd., 64113
Jacobs, Mrs. Morton, 6416 Verona Rd., Prairie Village, Kan. 66208
Jacobs, Mrs. Walter Harvey, 66656 Milhaven Dr., Shawnee Mission, Kan. 66202
James, Mrs. Otis E., Jr., 2810 W. 68th St., Shawnee Mission, Kans. 66208
Jansen, Mrs. Robert, 440 E. 66th St. 64113
Jarvis, Mrs. James A., 600 W. 57th St. 64113
Jenab, Mrs. Morteza, Route 2, Box 171, Blue Springs 64015
Johnson, Mrs. James S., 2824 Benton Blvd. 64128
Johnson, Mrs. Joseph E., 707 W. Montcrew Dr. 64114
Johnstone, Mrs. Paul N., 117 W. 69th Terr. 64113
Jonas, Mrs. Harry S., 11711 Markham Rd., Independence 64025
Jones, Mrs. Gale O., 121 Ward Parkway, Apt. 806 64112
Jones, Mrs. T. Reid, 5927 Lockton La., Shawnee Mission, Kan. 66205
Justus, Mrs. John B., 5221 Howe Dr., Shawnee Mission, Kan. 66205
Kanarek, Mrs. Joseph, 6112 W. 87 Terr., Leawood, Kan. 66207
Kantor, Mrs. Julius M., 6708 High Dr., Shawnee Mission, Kan. 66208
Kantor, Mrs. Samuel, 3604 W. 87th St., Leawood, Kan. 66206
Katz, Mrs. Milton, 3535 W. 61st Terr., Shawnee Mission, Kan. 66205
Kaul, Mrs. Philip G., 5310 Mission Woods Rd., Shawnee Mission, Kan. 66205
Keeler, Mrs. James E., 651 W. 57th St. 64113
Kendall, Mrs. Charles A., 658 Red Rd., Independence 64050
Kennard, Mrs. G. Keith, 3658 Madison 64111
Kent, Mrs. Bela, 5839 Cherokee Dr., Shawnee Mission, Kan. 66205
Ketcham, Mrs. William Merrit, 4550 Warwick 64111
Kettner, Mrs. Edward G., 6510 Milhaven Dr., Shawnee Mission, Kan. 66202
Kiene, Mrs. Richard H., 5835 High Dr., Shawnee Mission, Kan. 66208
Kimball, Mrs. Merritt H., 610 E. 36th 64109
King, Mrs. Tenbrook, 8228 Linden Dr., Prairie Village, Kan. 66208
Kitchen, Mrs. W. M., 2700 W. 68th, Shawnee Mission, Kan. 66208
Klein, Mrs. E. H., 7011 Roe, Prairie Village, Kan. 66208
Knight, Mrs. John S., 5800 High Dr., Shawnee Mission, Kan. 66208
Knight, Mrs. Lyle B., 108 Madison La., Lee's Summit 64063
Knoch, Mrs. H. Kermit, 6606 Willow La., Shawnee Mission, Kan. 66208
Koontz, Mrs. Paul G., 549 W. 50th 64112
Korth, Mrs. William M., 6615 Overhill Rd., Shawnee Mission, Kan. 66208
Kranson, Mrs. Seymour J., 11 Hawthorne Pl., Independence 64052
Kyger, Mrs. John E., 3612 Blue Ridge, Independence 64052
Lally, Mrs. James J., 800 W. 52nd Terr. 64112
Lamar, Mrs. Frederick C., 803 W. 48th St., Apt. 12 64112
Lamar, Mrs. Robert F., 800 W. 53rd Terr. 64112
Lambie, Mrs. Roger W., 9261 Reeder Dr., Overland Park, Kan. 66214
Landis, Mrs. George K., 10115 Pawnee La., Shawnee Mission, Kan. 66206
Lapp, Mrs. Harry C., 638 W. 59th 64113
Latham, Mrs. Raymond W., 3008 W. 67th St., Shawnee Mission, Kan. 66208
Lauer, Mrs. Daniel J., 21 E. 67th St. 64113
Lavton, Mrs. Ira C., 1025 Greenway Terr. 64113
Lee, Mrs. Henry A., 9821 Sagamore Rd., Leawood, Kan. 66206
Leitch, Mrs. Cecil G., Route 2, Box 222, Blue Springs 64015
Leitz, Mrs. Frank B., 308 W. 116th 64114
Lemoine, Mrs. Albert N., Sr., 9200 High Dr., Leawood, Kan. 66206
Leo, Mrs. William A., 4505 W. 66th St., Prairie Village, Kan. 66208
Lewis, Mrs. Revis C., 1001 W. 56th St. 64113
Lichtor, Mrs. Joseph M. 2109 W. 70th St., Prairie Village, Kan. 66208
Lieberman, Mrs. B. Albert, Jr., 424 W. 70th St., 64113
Liersch, Mrs. Joseph C., 815 E. Gregory Blvd. 64131
Lilly, Mrs. Terry E., Jr., 6515 Belinder, Shawnee Mission, Kan. 66208
Link, Mrs. Vance E., 1201 W. 36th St., Independence 64050
Lloyd, Mrs. Ivan E., 1816 Rankin Dr., Independence 64050
Long, Mrs. R. Stacy, 3343 Blue Ridge Blvd., Independence 64052
Lowell, Mrs. Paul, 4742 Liberty 64112
Lyddon, Mrs. Harold R., Jr., 1221 W. 67th St. 64113
Lytton, Mrs. George J., 3408 W. 79th St., Prairie Village, Kan. 66208
Maccubbin, Mrs. Don A., 8361 Somerset Dr., Shawnee Mission, Kan. 66207

Mangels, Mrs. Kenneth A., Sr., 1103 W. 36th Terr., Independence 64050
Mantz, Mrs. Herbert L., 1209 Romany Rd. 64113
Marks, Mrs. Mark M., 6537 Summit 64113
Marshall, Mrs. C. F., 2500 W. 65th St., Shawnee Mission, Kan. 66208
Martin, Mrs. Clyde V., 5531 E. Mission Dr., Shawnee Mission, Kan. 66208
Masterson, Mrs. Byron J,, 2808 W. 75th, Prairie Village, Kan. 66208
Masucci, Mrs. Joseph M., 1012 W. 96th Terr. 64114
May, Mrs. James W., 3501 W. 63rd St., Shawnee Mission, Kan. 66208
Mayer, Mrs. John H., Jr., 829 W. 55th St. 64113
McCanse, Mrs. Andrew, 1232 W. 60th Terr. 64113
McClanahan, Mrs. Robert C., 6456 Overbrook Rd., Shawnee Mission, Kan. 66208
McConchie, Mrs. James E., 12093 E. 35th Terr., Independence 64050
McCoy, Mrs. Fred, 5720 Foster, Shawnee Mission, Kan. 66202
McCubbin, Mrs. C. Roy, 8612 Meadow La., Shawnee Mission, Kan. 66206
McCunniff, Mrs. William B., 3719 Jarboe 64111
McDonnell, Mrs. John F., 5411 Central 64113
McGannon, Mrs. Paul T., 4806 Pawnee La., Shawnee Mission, Kans. 66205
McHale, Mrs. Thomas Cecil, 3003 W. 90th Terr., Leawood, Kan. 66206
McKee, Mrs. Joseph W., 9610 Overbrook Rd., Leawood, Kan. 66206
McKee, Mrs. Wallace P., 2020 Stratford Rd., Shawnee Mission, Kan. 66208
McLeod, Mrs. John, 9 E. 67th St. 64113
McMillan, Mrs. Thomas E., 8201 Dearborn, Shawnee Mission, Kan. 66208
McVay, Mrs. James R., Jr., 1233 W. 63rd Terr. 64113
Medlicott, Mrs. William J., 1260 W. 59th 64113
Melgaard, Mrs. S. Ross, 1012 W. 61st Terr. 64113
Meyer, Mrs. Paul W., 5160 Sunset Dr. 64112
Meyers, Mrs. Harold L., 1901 Brookwood Rd., Shawnee Mission, Kan. 66208
Miles, Mrs. George O., 2231 W. 63rd St., Shawnee Mission, Kan. 66208
Miller, Mrs. Clint L., 211 Oxford Dr., Lee's Summit 64063
Miller, Mrs. Gerald L., 836 W. 51st St. 64112
Miller, Mrs. Max I., 4001 W. 66th St., Prairie Village, Kan. 66208
Miller, Mrs. Wade H., 4550 Warwick Blvd., Apt. 508 64111
Miller, Mrs. Wilson Herrick, 6400 Verona Rd., Shawnee Mission, Kan. 66208
Mixson, Mrs. William C., 6501 Sagamore Rd., Shawnee Mission, Kan. 66208
Montello, Mrs. Samuel A., 4109 Delmar Dr., Prairie Village, Kan. 66208
Mooney, Mrs. Justin L., 5717 Windsor Rd., Shawnee Mission, Kan. 66205
Mooney, Mrs. Marcel L., 6439 Ensley La., Prairie Village, Kan. 66208
Morgan, Mrs. David B., 6513 Jefferson 64113
Morris, Mrs. Joseph H., 5017 George 64133
Morrow, Mrs. Raymond L., 17 W. 69th St. 64113
Moss, Mrs. Paul, 420 E. 64th Terr. 64131
Mosser, Mrs. Robert S., 3114 S. Norton, Independence 64052
Mueller, Mrs. M. J., 6441 Holmes 64131
Mullen, Mrs. Leo M., 4443 Paseo 64110
Murphy, Mrs. Edward S., 421 W. 68th St. 64113
Murphy, Mrs. Robert J., 6428 High Dr., Shawnee Mission, Kan. 66208
Muth, Mrs. Robert G., 9336 Ballentine La., Overland Park, Kan. 66214
Myers, Mrs. John S., 5401 W. 65th Pl., Shawnee Mission, Kan. 66202
Myers, Mrs. Robert M., 804 W. 65th St. 64113
Myers, Mrs. Wilson A., 425 Huntington Rd. 64113
Naime, Mrs. Mansour J., 5209 W. 79th St., Shawnee Mission, Kan. 66208
Needels. Mrs. Orval T., 207 W. 67th Terr. 64113
Nelson, Mrs. Bentley A., 6429 Willow La., Shawnee Mission, Kan. 66208
Nesselrode, Mrs. John H., 12000 Marbec Trail, Independence 64052
Nickson, Mrs. Charles E., Jr., 4425 Larson 64133
Nigro, Mrs. E. Robert, 415 W. 55th 64113
Noltensmeyer, Mrs. Milton, 3305 S. 50th Terr., Shawnee Mission, Kan. 66205
Nunn, Mrs. P. M., 3418 Karnes Blvd. 64111
O'Hearne, Mrs. John J., 5529 High Dr., Shawnee Mission, Kan. 66208
O'Neil, Mrs. James H., 2111 W. 69th Terr., Shawnee Mission, Kan. 66202
Overesch, Mrs. Harry B., 6215 Ensley La., Shawnee Mission, Kan. 66208
Ozar, Mrs. Milton B., 1206 W. 62nd 64113
Padfield, Mrs. Earl G., 1900 W. 61st Terr., Shawnee Mission, Kan. 66208
Pakula, Mrs. Sidney F., 5225 Charlotte 64110
Pallett, Mrs. Harold A., 4618 Warwick 64112
Parker, Mrs. Hubert M., 1200 W. Red Bridge Rd. 64114
Passman, Mrs. Harold, 416 E. 72nd Terr. 64131
Pearson, Mrs. Paul, 5820 Howe Dr., Shawnee Mission, Kan. 66205
Peete. Mrs. Don Carlos, 3717 Belleview 64111
Perll. Mrs. Maurice F., 830 W. 61st Terr., 64113
Perry. Mrs. Ralph, 7140 Sni-A-Bar Rd. 64129
Peterson. Mrs. Milton C., 3000 W. 67th St., Shawnee Mission, Kan. 66208
Petry, Mrs. E. L., 6520 Reeds Dr., Shawnee Mission, Kans. 66202
Pfeutze, Mrs. Edwin L., 5407 W. 100th Terr., Overland Park, Kan. 66204
Piper, Mrs. Donald K., 9929 High Dr., Shawnee Mission, Kan. 66206
Pipkin, Mrs. Garrett, 5427 Baltimore 64112
Pollock, Mrs. Leo H., 6601 Wenonga Terr., Shawnee Mission, Kan. 66208
Pope, Mrs. Charles H., Jr., 13301 E. 40th St., Independence 64050
Porter, Mrs. Louis, 6017 McGee St., 64113
Potts, Mrs. Donald, 18508 E. 30th Terr., Independence 64050
Powers, Mrs. John M., 3838 Blue Ridge Blvd., Independence 64052
Preston, Mrs. Albert, Jr., 606 W. Meyer Blvd. 64113
Printz, Mrs. Joseph H., 820 W. 64th Terr. 64113
Pugh, Mrs. Richard George, 600 Dickinson Rd., Independence 64050
Quer, Mrs. Erich A., 6820 Tomahawk Rd., Shawnee Mission, Kan. 66208
Quistgard, Mrs. Paul C., 7300 Manchester 64133
Raich, Mrs. Robert A., 828 Greenway Terr. 64113
Rector, Mrs. Joe Lee, Jr., 3915 W. 53rd St., Shawnee Mission Kan. 66205
Reinhardt, Mrs. G. Robert, 600 E. 66th St., 64110
Rhoades, Mrs. Arthur. 110th & Antioch Rd., Box 292, Lenexa, Kan. 66051
Riller, Mrs. L. E., 3724 Holmes 64109
Rinkel, Mrs. Marie Thiessen, 6405 Sagamore Rd., Shawnee Mission, Kan. 66208
Roberts, Mrs. Harold M., 1005 Brentwood Cir. 64112
Roberts, Mrs. Sam E., 5964 Overhill Rd., Shawnee Mission, Kan. 66208
Robinson, Mrs. Arthur W., 6600 Wenonga Rd., Shawnee Mission, Kan. 66208
Robinson, Mrs. Ernest Kip, 1015 W. 58th Terr. 64113
Robinson, Mrs. William J., 9931 Lee Cir., Shawnee Mission, Kan. 66206
Robison, Mrs. James Travis, Jr., 4203 W. 92nd Terr., Shawnee Mission, Kan. 66207
Rodgers, Mrs. George H., 10041 El Monte La., Overland Park, Kans. 66204
Rubin, Mrs. Sidney, 1287 W. 72nd 64114
Rubnitz, Mrs. Leon H., 210 W. 94th St., 64114
Saferstein, Mrs. A. Lester, 6859 Cherry 64131
Sanders, Mrs. Clarence E., 4700 Roanoke Pkwy. 64112
Sanders, Mrs. Donald, 11721 Oak St., 64114
Sanders, Mrs. William F., 1004 W. 66th Terr. 64113
Sauer, Mrs. Gordon C., 830 W. 58th Terr. 64113
Saunders, Mrs. Everett L., 3839 S. Crysler, Independence 64050
Schaerrer, Mrs. W. C., 5245 Mercier 64112
Schiffmacher, Mrs. Jack E., 4517 W. 65th, Prairie Village, Kan. 66208
Schoerer, Mrs. Edwin Henry, 221 W. 48th St. 64112
Schottman, Mrs. Gerhard W., Jr., 5902 W. 77th Terr., Prairie Village, Kan. 66208
Seely, Mrs. Clark W., 3000 W. 68th St., Shawnee Mission, Kan. 66208
Sells, Mrs. Kenneth J., 5724 Delmar, Mission, Kan. 66205
Shapiro, Mrs. L. M., 6429 Holmes 64131
Shelden, Mrs. Russell D., 816 W. 58th Terr. 64113
Shifrin, Mrs. Alexander, 6824 Holmes 64131
Shireman, Mrs. Kenneth L., 55th Terr. & Noland Rd., Route 3 64133
Shuey, Mrs. Herbert H., 933 E. 77th Terr. 64131
Shumate, Mrs. D. L., 3703 Penn 64111
Shypper, Mrs. M. J., 4738 Oak 64112
Simon, Mrs. Sanford, 8129 Rosewood, Shawnee Mission, Kan. 66208
Sinclair, Mrs. Alexander B., Jr., 211 W. Concord Ave. 64112
Singleton, Mrs. J. Milton, 4618 Warwick Blvd., 64112
Singleton, Mrs. J. Milton, III, 634 W. 60th Terr. 64113
Skillman, Mrs. Robert K., 10335 High Dr., Shawnee Mission, Kan. 66206
Skinner, Mrs. John T., 824 Westover Rd. 64113
Slentz, Mrs. Edwin L., 4812 W. 66th Terr., Shawnee Mission, Kan. 66208
Slentz, Mrs. William A., 441 W. 59th Terr. 64113
Slickman, Mrs. Robert A., 4937 Wyoming 64112
Smith, Mrs. Arthur B., 10130 Pawnee La., Leawood, Kan. 66206
Smith Mrs. Dale C., 6617 Wenonga Terr., Shawnee Mission, Kan. 66208
Smith, Mrs. Ira T., 2 Wycklow, Shawnee Mission, Kan. 66207
Smith, Mrs. Wallace B., 3409 S. Leslie, Independence 64050
Sneid, Mrs. Philip, 4201 W. 90th Terr., Overland Park, Kan. 66204
Snider, Mrs. Sam H., 722 Ward Parkway 64112
Snider, Mrs. W. Ray, 14501 Berkshire Dr., Independence 64050
Spafford, Mrs. Allen L., 5552 Belinder Ave., Shawnee Mission, Kan. 66205
Spencer, Mrs. Donald M., 10200 E. 85th Terr., Raytown 64138
Spurny, Mrs. Otto M., 10 E. 68th Terr. 64113
Stacey, Mrs. Wallace R., 3407 Shady Bend Dr., Independence 64052
Staggs, Mrs. William A., 641 E. 45th St. 64110
Staley, Mrs. Harry R., 5028 Sunset Dr. 64112
Statland, Mrs. Harry, 1016 W. 69th Terr. 64113
Statland, Mrs. Morris, 2911 W. 66 Terr., Shawnee Mission, Kan. 66208
Steffen, Mrs. L. F., 5521 Crestwood Dr. 64110
Stelle, Mrs. Charles W., 4304 W. 82nd Terr., Shawnee Mission, Kan. 66208
Stelmach, Mrs. W. Jack, 6100 Morningside Dr. 64113
Stockton, Mrs. Raymond W., 5215 W. 81st St., Prairie Village, Kan. 66208
Stockwell, Mrs. A. Lloyd, 5736 Windsor Dr., Shawnee Mission, Kan. 66205
Stratemeier, Mrs. Edward H., Jr., 9728 High Dr., Leawood, Kan. 66206
Strauss, Mrs. Carl F., 8330 Nall, Shawnee Mission, Kan. 66207
Stribling, Mrs. Thomas L., 5006 George St. 64133
Summers, Mrs. Caldwell B., 7312 Jarboe 64114
Sutton, Mrs. Richard L., Jr., 5400 Ward Parkway 64112
Swisher, Mrs. Robert C., 6034 Lockton La., Shawnee Mission, Kan. 66205
Szabados, Mrs. Ernest D., 1901 S. Leslie. Independence 64050

Tarson, Mrs. Solomon S., 5511 W. 85th, Overland Park, Kan. 66204
Tasker, Mrs. Charles B., 2721 W. 67th Terr., Shawnee Mission, Kan. 66208
Teare, Mrs. Max, 11201 Walnut 64114
Terrill, Mrs. Robert S., 10223 Lee Blvd., Leawood, Kan. 66206
Thiele, Mrs. George H., 6526 High Dr., Shawnee Mission, Kan. 66208
Thomas, Mrs. Christopher Y., Jr., 5830 Mission Dr., Shawnee Mission, Kan. 66208
Thompson, Mrs. Charles L., 1256 W. 61st Terr. 64113
Tice, Mrs. Wayne K., 1915 Lake Dr., Independence 64050
Trippe, Mrs. Harrison C., 317 W. 51st 64112
Trowbridge, Mrs. E. H., Jr., 6436 High Dr., Shawnee Mission, Kan. 66208
Tutera, Mrs. D. F., 1260 W. 63rd Terr. 64113
Twin, Mrs. Edward, 2921 W. 67th Terr., Shawnee Mission, Kan. 66208
Twyman, Mrs. Richard A., 1020 W. 56th St. 64113
Underwood, Mrs. Dick Holland, 2008 W. 95th St., Leawood, Kan. 66206
Underwood, Mrs. Harry A., 6516 Aberdeen, Shawnee Mission, Kan. 66208
Van Biber, Mrs. James T., 3705 Northern Blvd., Independence 64052
Van Del, Mrs. Dwight T., 7531 Terrace, 64114
Vaughn, Mrs. James W., 5509 W. 86th, Shawnee Mission, Kan. 66207
Vilmer, Mrs. Charles E., 6209 W. 65th, Shawnee Mission, Kan. 66202
Vincent, Mrs. Jack C., 2003 W. 67th Terr., Shawnee Mission, Kan. 66208
Virden, Mrs. Herbert H., 6533 High Dr., Shawnee Mission, Kan. 66208
Voth, Mrs. Harold W., 5413 Neosho, Shawnee Mission, Kan. 66205
Wade, Mrs. Frederick E., 413 W. 62nd St. 64113
Wagner, Mrs. Paul J., 3146 W. 44th Terr., Kansas City, Kan. 66103
Wakefield, Mrs. Franklin H., 8352 Overbrook Rd., Leawood, Kan. 66206
Walker, Mrs. James C., 609 E. 96th St. 64131
Walker, Mrs. John W., 9217 Pawnee, Shawnee Mission, Kan. 66206
Walker, Mrs. Orville C., Jr., 604 Partridge, Independence 64050
Wall, Mrs. Harry C., 2425 W. 67th, Shawnee Mission, Kan. 66208
Wall, Mrs. Leonard A., 5011 Neosho Ave., Shawnee Mission, Kan. 66205
Ward, Mrs. Robert L., 3608 E. Shady Lane Dr., North 64119
Webster, Mrs. Joseph G., 5532 Locust 64110
Weiford, Mrs. Edward C., 2009 W. 68th, Shawnee Mission, Kan. 66208
Welker, Mrs. Joseph E., 6441 Summit 64113
Weltscheff, Mrs. Christo A., 1800 Blue Ridge Extension 64146
Wheeler, Mrs. Charles B., 820 W. 57th 64113
Wheeler, Mrs. John H., 5650 Mission Dr., Shawnee Mission, Kan. 66208
White, Mrs. Charles H., 6518 Overhill Rd., Prairie Village, Kan. 66208
White, Mrs. Stoughton F., 6815 Cherokee La., Shawnee Mission, Kan. 66208
White, Mrs. William E., 613 W. 57th Terr. 64113
Whiteman, Mrs. John R., 9729 Cherokee La., Leawood, Kan. 66206
Whitman, Mrs. Doyle C., 6836 Cherokee La., Shawnee Mission, Kan. 66208
Whitmore, Mrs. J. Stewart, 1039 W. 58th St. 64113
Whittaker, Mrs. Charles K., 627 E. 69th 64131
Wilhelm, Mrs. Warren F., 3100 W. 67th St., Shawnee Mission, Kan. 66208
Wilkinson, Mrs. E. A., 6810 Linden La., Prairie Village, Kan. 66208
Williams, Mrs. Delon Acree, 1252 Stratford Rd. 64113
Williams, Mrs. Joseph C., Jr., 2209 Arno Rd., Shawnee Mission, Kan. 66208
Williams, Mrs. Roland Dean, 3635 Belleview 64111
Williams, Mrs. Vincent T., 4400 Blue Ridge Blvd. 64133
Willits, Mrs. Lyle G., 1224 W. 62nd St., 64113
Willoughby, Mrs. James W., 421 N. Ridge, Liberty 64068
Willoughby, Mrs. Jean B., 1019 W. 69th Terr. 64113
Wilson, Mrs. Brickhouse, 700 Ward Parkway 64112
Wilson, Mrs. Clifford C., 5531 Neosho La., Shawnee Mission, Kan. 66205
Winer, Mrs. Herbert J., 8136 Rosewood Dr., Prairie Village, Kan. 66208
Winston, Mrs. Bernard H., 1006 W. 67th St. 64113
Wise, Mrs. George W., 4610 Homestead Dr., Prairie Village, Kan. 66208
Wolf, Mrs. Jack, 6125 Morningside Dr. 64113
Woods, Mrs. S. Dwight, 3408 W. 69th, Shawnee Mission, Kan. 66208
Workman, Mrs. Charles E., 6609 Milhaven Dr., Shawnee Mission, Kan. 66202
Wortmann, Mrs. Robert F., 2819 W. 66th Terr., Shawnee Mission, Kan. 66208
Wright, Mrs. R. Paul, 4902 Belinder Rd., Shawnee Mission, Kan. 66206
Wu, Mrs. William, 4414 Homestead Dr., Prairie Village, Kan. 66208
Wurster, Mrs. W. Joel, 2015 Drury La., Shawnee Mission, Kan. 66208
Youll, Mrs. Donald V., 8329 High Dr., Shawnee Mission, Kan. 66206
Young, Mrs. James E., 2312 W. 98th, Leawood, Kan. 66206
Young, Mrs. Paul R., 7424 Gregory Cir., 64113
Zellermayer, Mrs. Jack, 5801 Lockton La., Shawnee Mission, Kan. 66205
Zoglin, Mrs. Nathan, 333 W. Meyer Blvd. 64113

JASPER COUNTY
(Joplin)

Allen, Mrs. David D., 505 W. 34th St. 64803
Barnett, Mrs. Norman H., Route 3, Box 181, Tabor Woods 64801
Birsner, Mrs. Frank, 1717 River St., Carthage 64836
Black, Mrs. Mervin H., 1001 W. Murphy Blvd. 64801
Burch, Mrs. John E., 1345 Crest Dr., 64801
Carnes, Mrs. Victor, 710 N. Sergeant 64803
Chase, Mrs. Ned B., 2901 Kentucky 64803
Chesney, Mrs. George W., Jr., 416 E. 12th St. 64803
Cohle, Mrs. Richard, 1609 Lilac La., Carthage 64836
Craig, Mrs. Irwin T., 2525 E. 12th St. 64803
Crawford, Mrs. A. L., 2931 Pearl Ave. 64801
Crispell, Mrs. Lawrence S., 911 Kensington 64801
Curl, Mrs. Howard, 2031½ Pearl 64803
Detar, Mrs. Burleigh, Sr., 410 Jackson 64801
Ferguson, Mrs. Lewis H., 604 Plaza Dr. 64803
Ferguson, Mrs. Ralph, 420 E. 33rd St. 64803
Fritsch, Mrs. Andrew J., 2920 Pearl 64801
Graves, Mrs. F. Burton, Route 4, Box 491 64803
Hamilton, Mrs. Eugene H., 615 North Pearl 64801
Hornback, Mrs. Edward H., 2841 East 14th 64803
Isbell, Mrs. C. H., 1046 S. Garrison, Carthage 64836
Jeans, Mrs. Virgil, 629 Islington Pl. 65801
Kirschman, Mrs. Robert E., Route 4, Box 359 64803
Koehler, Mrs. John W., 3010 Wall 64801
Longenecker, Mrs. Joe L., 2606 East 14th 64801
McNew, Mrs. W. T., 1204 S. Main 64836
McPike, Mrs. Lloyd, 3317 Oakridge Dr. 64803
Myers, Mrs. Roy E., 623 Sergeant 64801
Paddock, Mrs. Charles S., 1500 Range Line 64801
Papp, Mrs. Sandor D., 3343 Pearl 64801
Patterson, Mrs. Donald R., Route 1, Box 481 64801
Patterson, Mrs. Grover S., 1717 River, Carthage 64836
Pence, Mrs. F. Wendell, Route 2, Box 309, Carthage 64836
Post, Mrs. Winfred L., 2630 E. 15th St. 64803
Reid, Mrs. Charles T., 411 Jackson 64801
Schmidt, Mrs. Herbert J., 820 North Moffet 64801
Schoeberl, Mrs. C. B., 3111 E. 4th St. 64801
Schulte, Mrs. Gregory A., 2515 E. 12th St. 64803
Scorse, Mrs. S. W., 619 W. 2nd St. 64801
Smith, Mrs. Roland T., 426 N. Pearl 64801
Smith, Mrs. Russell W., 315 Euclid, Carthage 64836
Walker, Mrs. Paul, 1022 N. Sergeant 64801
Wetzel, Mrs. Fred S., 1503 S. Garrison, Carthage 64836
Wieman, Mrs. Harry K., 536 N. Wall 64801
Wood, Mrs. George H., 530 E. Highland, Carthage 64836
Wooldridge, Mrs. Bart F., 1435 Crest Dr. 64801
Young, Mrs. C. C., 2518 E. 15th St. St. 64803

JEFFERSON COUNTY

Allbee, Mrs. Roger, Crystal City 63019
Bolgar, Mrs. Bertalan, Festus 63028
Donnell, Mrs. Harold, DeSoto 63020
Donnell, Mrs. Hart, Crystal City 63019
Donnell, Mrs. Thomas, DeSoto 63020
Fallet, Mrs. Charles, DeSoto 63020
Ibaviosa, Mrs. Alfred, Festus 63028
Judge, Mrs. Thomas, Crystal City 63019
Kozal, Mrs. Frank, Crystal City 63019
Mayfield, Mrs. Logan, Crystal City 63019
McKinstry, Mrs. Karl, DeSoto 63020
Rutledge, Mrs. John, Crystal City 63019
Senn, Mrs. Emmett, Herculaneum 63048

JOHNSON COUNTY
(Warrensburg 64093)

Cooper, Mrs. R. Lee, 411 Gay
Damron, Mrs. Oscar H., 612 N. Maguire
Folkner, Mrs. Albert L., 316 Hillcrest Dr.
Frein, Mrs. D. E., Leeton 64761
Gonzalez, Mrs. Mario Garza, 508 Jefferson
Harkness, Mrs. Harry J., Barkarth Rd.
Jones, Mrs. Keith D., 910 E. Clark
Lederer, Mrs. Charles M., 617 Clark
Maxson, Mrs. R. Reed, Arilen Acres
Johnson, Mrs. Charles S., 821 S. Maguire

LAFAYETTE-RAY COUNTIES

Best, Mrs. Robert, Higginsville 64037
Boydston, Mrs. Wayne, Odessa 64076
Brady, Mrs. Hugh, Concordia 64020
Brasher, Mrs. Ben H., Lexington 64067
Cook, Mrs. Edna, Richmond 64085
Cook, Mrs. Thos. B., Richmond 64085
Cope, Mrs. Joseph S., Lexington 64067
Crozier, Mrs. Frank, Sr., 323 S. Institute, Richmond 64082
Devault, Mrs. George, Richmond 64085
Fulkerson, Mrs. W. E., Higginsville 64037
Huber, Mrs. Herbert, Richmond 64085
Johnston, Mrs. Esther, Concordia 64020
Kelling, Mrs. Douglas, Waverly 64096
Kelling, Mrs. Jordan, Waverly 64096
Koppenbrink, Mrs. W. E., Jr., Higginsville 64037
Koppenbrink, Mrs. W. E., Sr., Higginsville 64037
LaHue, Mrs. William, Lexington 64067
Liston, Mrs. Odis, Oak Grove 64075
Martin, Mrs. W. E., Odessa 64076
McFadden, Mrs. Gene, Waverly 64096
Riley, Mrs. Charles, 314 N. Thornton, Richmond 64085
Ward, Mrs. Joe W., Lexington 64067
Williams, Mrs. John, Oak Grove 64975

LINCOLN-ST. CHARLES COUNTIES
(St. Charles 63301)

Barnette, Mrs. Eugene, 2626 W. Adams
Berry, Mrs. Paul, 160 Harris St., Troy 63379
Canty, Mrs. Eugene, 1824 Sibley
Clever, Mrs. Henry, 1245 Cunningham
Commerford, Mrs. John, 302 S. Duchesne
Cottey, Mrs. John, 2807 Mayer Dr.
Creech, Mrs. Joseph, Troy 63379
Crider, Mrs. Russell, 1875 S. River Rd.
Damron, Mrs. Edward, 602 N. 5th, Elsberry 63343
Duling, Mrs. Gerald, No. 3 Shawnee Dr.
DuMontier, Mrs. R. J., P. O. Box 8, O'Fallon 63366

Fleming, Mrs. Robert, 700 Hawthorn
Goldkamp, Mrs. John, 2620 Park
Gossow, Mrs. Geret, 3029 Flamingo Dr.
Hammes, Mrs. Roman, 505 Concordia
Hanlon, Mrs. Russell, 2616 Brookridge La.
Hardin, Mrs. Mabel J., 220 Madison
Hetlage, Mrs. Louis, No. 5 Sunset Dr., Troy 63379
Keller, Mrs. Robert, 712 Parr, Wentzville 63385
Lensenmeyer, Mrs. Charles, 2804 Mayer Dr.
Muenster, Mrs. Vincent, No. 3 Brairwood
Poggemeier, Mrs. William, 140 Prairie Haute
Roter, Mrs. Alex, 2224 W. Adams
Rother, Mrs. Paul, No. 7 Elmwood Park
Schneider, Mrs. Thomas, 3208 West Adams
Schneider, Mrs. Vincent, 2207 W. Adams
Scokel, Mrs. Paul, 3000 Elmhurst
Smoller, Mrs. Martin, 208 Oriole
Thiele, Mrs. Otto, 2702 El Camino
Towers, Mrs. Orville W., Elm Point Road
Westerfeld, Mrs. Roy, 32 Ayshire, Route 4
Wipfler, Mrs. Earl, 143 N. Cardinal
Yaeger, Mrs. Gerald, 1916 Sibley

MARION-RALLS-SHELBY COUNTIES
(Hannibal 63402)

Bach, Mrs. Lysle, 1737 Harrison Hill
Burns, Mrs. Francis, 2903 Hill
Fischer, Mrs. Thomas, 8 Orlando Dr.
Foreman, Mrs. Phillip, 3342 W. Ely Rd.
Glascock, Mrs. Donald, Palmyra 63461
Grant, Mrs. Albert J., 5008 College Ave.
Hamlin, Mrs. Wyeth, 3405 St. Mary's Ave.
Hinds, Mrs. R. David, 26 Holliday
Landau, Mrs. Dan, 2901 Pleasant
Lanning, Mrs. Robert, 7 Cardiff Dr.
Latimer, Mrs. Walter, 2303 Palmyra Rd.
Lucke, Mrs. E. M., 4000 McMasters Ave.
Mann, Mrs. James K., 4074 Hillside Dr.
Rapp, Mrs. Earl, Edgewood
Steele, Mrs. James, 1106 Hill
Strong, Mrs. Richard, 10 Riverpoint
Sweets, Mrs. Henry, Jr., 207 N. 6th St.
Walterscheid, Mrs. John, 12 Riverpoint
Well, Mrs. Julius, Palmyra 63461

MILLER-MONITEAU-MORGAN

Buehler, Mrs. Carl T., Jr., Eldon 65026
Burker, Mrs. J. P., California 65018
Fulks, Mrs. Richard B., California 65018
Gallagher, Mrs. Lionel M., California 65018
Gunn, Mrs. Jack, Versailles 65084
Latham, Mrs. Kenyon, 200 S. High St., California 65018
Lyle, Mrs. Ray, Versailles 65084
Shelton, Mrs. E. O., Eldon 65026
Washburn, Mrs. J. L., Versailles 65084

MINERAL AREA
(St. Francois-Iron-Madison-Washington-Reynolds-Ste. Genevieve Counties)

Appleberry, Mrs. Charles H., 706 W. Main St., Flat River 63601
Appleberry, Mrs. Reuben, 815 W. Columbia, Farmington 63640
Brennan, Mrs. John A., 2 Hoctor Dr., Farmington 63640
Bull, Mrs. Ben, 109 S. Knob St., Ironton 63650
Burcham, Mrs. Tom R., Highway W., Farmington 63640
Carleton, Mrs. Charles E., 501 Center St., Farmington 63640
Chastain, Mrs. C. W., Route 3, Farmington 63640
Crouch, Mrs. F. Richard, 714 Ste. Genevieve St., Farmington 63640
Dennis, Mrs. Paul, 709 Tyler, Flat River 63601
Estrada, Mrs. Tulio, Box 210, Route 2, Farmington 63640
Evans, Mrs. Albert, 113 Benham, Bonne Terre 63628
Foster, Mrs. Jack L., Desloge 63603
Grossman, Mrs. Marvin, 500 Marshall, Fredericktown 63645
Hardy, Mrs. Stanton L., 807 N. Main St., Desloge 63603
Huckstep, Mrs. Robert A., 1313 N. Washington, Farmington 63640
Hunt, Mrs. John W., Jr., 110 Bell, Leadwood 63653
Jimenez, Mrs. Jose, State Hospital, Farmington 63640
Karraker, Mrs. Alvan G., 507 North St., Farmington 63640
Mullen, Mrs. Jack, Route 2, Bonne Terre 63628
Oliver, Mrs. George A., 117 Oak Hill Downs, Farmington 63640
Osborn, Mrs. R. W., III, State Hosp. Grounds, Farmington 63640
Taylor, Mrs. Van W., 54 Church St., Bonne Terre 63628
Turner, Mrs. Kirby, Potosi 63664
Watkins, Mrs. George Linn, 812 Dewey, Farmington 63640
Watkins, Mrs. George L., 813 Dewey, Farmington 63640

PERRY-STE. GENEVIEVE

Carron, Mrs. Oscar A., 308 N. Waters, Perryville 63775
DeGenova, Mrs. Gerald H., 1280 Ridgeway Dr. 63670
Fairchild, Mrs. James F., Route 2, Perryville 63775
Feltz, Mrs. Lawrence W., 20 Feltz, Perryville 63775
Fischer, Mrs. Theodore, Altenburg 63732
Lutkewitte, Mrs. Joseph F., 33 St. Jude Dr., Ste. Genevieve 63670
McDermott, Mrs. Alfred E., 619 Bruce, Perryville 63775
Utterman, Mrs. Wm. F., 614 S. Main St., Perryville 63775

PETTIS COUNTY
(Sedalia 65301)

Arnold, Mrs. Richard C., 1020 State Fair Blvd.
Boger, Mrs. John W., 2803 Skyline Dr.
Brady, Mrs. Charles H., 720 W. 5th St.
Braverman, Mrs. Elliot M., 2510 Wing Ave.
Brazos, Mrs. John, Route 2
Campbell, Mrs. Albert J., 1500 W. 16th St.
Campbell, Mrs. Albert J., Sr., 319 E. Broadway
Dyer, Mrs. D. P., 2511 Stephenson
Edwards, Mrs. David R., 1619 S. Moniteau
Eldenburg, Mrs. Donald, 2504 S. Woodlawn Dr.
Fisher, Mrs. Stanley D., 2200 S. Kentucky
Glass, Mrs. Robert, 1108 Herold St.
Gonser, Mrs. Karl B., 1619 W. Broadway
Hite, Mrs. H. A., 416 S. Grand
Hopkins, Mrs. Thomas J., 1506 W. Broadway
Lamy, Mrs. John E., 509 W. Broadway
Long, Mrs. Frank B., 723 W. 7th
Proctor, Mrs. Donald C., 717 W. 6th
Roberts, Mrs. Paul A., 101 E. Marshall, Sweet Springs 65351
Siegel, Mrs. Carl D., 810 S. Barrett
Snavely, Mrs. E. C., 908 S. Grand
Stauffacher, Mrs. Gordon C., 1313 W. Broadway
Stewart, Mrs. Robert H., 201 Driftwood Dr.
Trader, Miss Frances W., 219 W. 7th St.
Van Dyke, Mrs. Elmer, 2205 W. 5th St.
Walters, Mrs. A. L., 1000 W. 7th St.
Worley, Mrs. C. A., 102 W. Ray, Sweet Springs 65351

ST. LOUIS CITY
(St. Louis)

Abel, Mrs. Charles C., 1610 High School Dr., 63144
Allen, Mrs. Melvin A., 14 Lindworth Dr. 63124
Arneson, Mrs. Axel N., 6314 Waterman 63130
Backer, Mrs. Matt H., Jr., 101 Flamingo Dr., 63123
Balazs, Mrs. Karl J., 611 Cannonbury Dr. 63119
Bandle, Mrs. Donald F., 3801 January 63109
Barden, Mrs. Frank W., 41 Beaver Dr. 63141
Bartlett, Mrs. Robert W., 6459 Wydown 63105
Bartlett, Mrs. Willard, Sr., 53 Westmoreland Pl. 63108
Bartlett, Mrs. Willard, Jr., 6345 Ellenwood 63105
Bartnick, Mrs. Mitchell L., 6476 Eichelberger 63109
Bassett, Mrs. Robert B., 2 Beverly Pl. 63112
Becke, Mrs. William G., 18 Lorenzo La. 63124
Becke, Mrs. William G., 18 Lorenzo Lane 63124
Bell, Mrs. Robert M., 35 Glen Rd. 63119
Benjamin, Mrs. Durand, 7340 Navarre Cir 63123
Bilsky, Mrs. Nathan, 2 Somerset Downs 63124
Bindbeutel, Mrs. Arthur H., 3953 Holly Hills 63116
Bircher, Mrs. John L., 3932 Federer Pl. 63116
Boemer, Mrs. Lilburn C., 49 Clermont La. 63124
Bohrer, Mrs. Harry C., 4112 Flora Pl. 63110
Bowdern, Mrs. Edward H., 2 Berkshire 63117
Boyd, Mrs. Arthur M., 6556 Delor Ave. 63109
Bradley, Mrs. Frank R., 7404 Oxford Dr. 63105
Bradley, Mrs. John Martin, 275 N. Union Blvd. 63108
Brennan, Mrs. George A., 10546 Hanford St. 63128
Brennan, Mrs. Robert Alexis, 6030 Highfield Rd. 63109
Bricker, Mrs. Eugene M., 43 Briarcliff 63124
Brodeur, Mrs. Armand E., 141 Horseshoe Dr. 63122
Broun, Mrs. Goronwy Owen, Jr., 6359 Waterman 63130
Brown, Mrs. Clyde O., 7419 York Dr. 63105
Brown, Mrs. E. Eugene, 379 N. Taylor 63108
Brown, Mrs. James Barrett, 4 N. Kingshighway 63108
Brown, Mrs. Seymour, 2 Ricardo La. 63124
Bruns, Mrs. Kenneth, 6318 Washington 63130
Budd, Mrs. John J., Jr., 6144 McPherson 63112
Burroughs, Mrs. W. H., 7327 Pershing 63130
Burst, Mrs. Donald O., 61 Trent Dr. 63124
Byrne, Mrs. John Edward, 5878 Delor 63109
Cameron, Mrs. Solon, 43 Washington Terr. 63112
Cannon, Mrs. Edward M., 20 Braircliff 63124
Cannon, Mrs. William J., 43 Clermont La. 63124
Cappel, Mrs. Powell B., 27 Old Westbury La. 63119
Carney, Mrs. Joseph E., 6625 Pernod Ave. 63139
Carroll, Mrs. George A., 7831 Delmar Blvd. 63130
Cary, Mrs. John M., 815 Brookside 63122
Chamness, Mrs. James T., 3 Town & Country Dr. 63124
Cherre, Mrs. Charles J., 10 Ridgetop 63117
Ciapciak, Mrs. Stanley J., 30 Log Cabin Dr. 63124
Clark, Mrs. Clarence L., 705 Questover 63142
Collodi, Mrs. George A., 20 Southcote 63144
Conrad, Mrs. Adolph H., Jr., 9 Dromara Rd. 63124
Conrad, Mrs. Marshall B., 216 W. Jackson Ave. 63119
Cook, Mrs. Ralph L., 44 Nolan Dr. 63122
Cooper, Mrs. Thomas J., 30 Beverly Dr. 63132
Costa, Mrs. Dominic V., 10 Devondale La. 63131
Crossman, Mrs. Robert W., 1509 Holly Dr. 63119
Daake, Mrs. John W., 48 Portland Pl. 63108
Dalton, Mrs. Arthur R., 13133 Conway & Mason Rd. 63141
Danis, Mrs. Peter G., 16 Villa Coublay 63131
Dash, Mrs. Udaya N., 1 Winding Brook La. 63124
Dewald, Mrs. Paul A., 527 Warren Ave. 63130
Diehr, Mrs. Alvin H., 29 Rio Vista 63124
DiLeo, Mrs. Senatro W., 34 Ridgetop 63117
Donahoe, Mrs. James L., 7336 Princeton 63130
Doyle, Mrs. Charles R., 28 Kingsbury Pl. 63112
Drake, Mrs. Truman G., 6344 Alexander 63105

Drews, Mrs. Robert C., 7361 Cornell Ave. 63130
Dreyer, Mrs. Carl Joseph, 45 Glen Rd. 63119
Dripps, Mrs. Roy C., 5210 Jamieson 63109
Eades, Mrs. Dee W., 6 Kingsbury Pl. 63112
Edwards, Mrs. Joseph C., 610 W. Polo Dr. 63105
Eigel, Mrs. Edwin G., 3654 Flora Pl. 63110
Ernest, Mrs. Edwin C., 2 Schultz Rd. 63122
Farley, Mrs. William, 2 Spoede Acres 63141
Feller, Mrs. Harold H., 5834 Bermuda Rd. 63121
Finn, Mrs. Murray Eugene, 47 Portland Pl. 63108
Fish, Mrs. Virgil D., 2500 Town & Country La. 63131
Fitzgerald, Mrs. Leo P., 7219 Cornell Ave. 63130
Flotte, Mrs. Bernard H., 6 Lila La. 63033
Flotte, Mrs. Sylvester, 9113 Glen Garden 63136
Ford, Mrs. Lee T., Jr., 45 Green Acres 63137
Franklin, Mrs. Max S., 7536 Buckingham Dr. 63105
Fries, Mrs. Armand D., 11 W. Geyer La. 63131
Fries, Mrs. John, 106 Frontenac Forest 63131
Furla, Mrs. Gus John, 57 Broadview Dr. 63105
Furlow, Mrs. Leonard T., Sunnymead 63124
Ganter, Mrs. George E., Jr., 6641 Pershing Ave. 63130
Glaser, Mrs. Martin J., 3550 Hawthorne Blvd. 63104
Glick, Mrs. Harry N., Mason Rd., Route 13 63122
Goldman, Mrs. Melvin L., 8650 Barby La. 63124
Gomez, Mrs. Cesar A., Jr., 18 Havenview Dr. 63141
Greiner, Mrs. Theodore, 7507 Washington 63130
Gresick, Mrs. Robert J., 11 Coach-N-Four La. 63131
Grogan, Mrs. Frank M., 4166 Flora Pl. 63110
Haddock, Mrs. James N., 111 Firwood Dr. 63119
Haeberle, Mrs. Frederick S., 3206 Hebert St. 63107
Hagebusch, Mrs. Omar E., 16 Covington La. 63132
Hall, Mrs. Preston C., 4243 Lafayette 63110
Hall, Mrs. Robert A., 43 Washington Terr. 63112
Hammond, Mrs. John J., 7245 Maryland 63130
Harkins, Mrs. William M., 7 Kingsbury Pl. 63112
Harris, Mrs. Solon P., 7138 Maryland 63130
Harrison, Mrs. Lee B., 44 Ridgemoor Dr. 63105
Hartnett, Mrs. Leo B., 9833 Waterbury 63124
Hassett, Mrs. Henry A., 4440 Lindell 63108
Hawk, Mrs. Bray O., 3534 Hawthorne Blvd. 63104
Haynes, Mrs. Pugh, 8006 Gannon 63130
Henderlite, Mrs. John W., 3 S. Tealbrook Dr. 63141
Heinbecker, Mrs. Peter, 4643 Pershing 63108
Henschel, Mrs. Eugene V., 55 Broadview Dr. 63105
Hertel, Mrs. Ronald C., 122 Frontenac Forest 63131
Hicks, Mrs. Robert S., 11155 Conway Rd. 63131
Hilbert, Mrs. Paul H., 5701 Pernod Ave. 63139
Hildreth, Mrs. H. Rommel, 711 Middle Polo Dr. 63105
Hogan, Mrs. Patrick C., 8935 Westhaven Ct. 63126
Holeman, Mrs. Ralph Eugene, 735 Montauban Dr. 63141
Hollo, Mrs. Vencel W., 5925 Lindell 63112
Hotz, Mrs. John W., 141 N. Gay 63105
Hutchinson, Mrs. William B., 2233 Cleek St. 63131
James, Mrs. Norman A., 9926 Parkway Dr. 63137
Jensen, Mrs. Joshua E., 3 Brazillian Ct. 63124
Jones, Mrs. Otey S., 2010 Longfellow Blvd. 63104
Jones, Mrs. Vincent L., 123 N. Forsyth 63105
Kamakas, Mrs. Nicholas C., 4500 Nadine Ct. 63121
Karandjeff, Mrs. A. D., 8016 Walinca 63105
Karl, Mrs. Michael M., 14 Thorndell 63117
Kelley, Mrs. Robert W., 5371 Waterman Ave. 63112
Kendig, Mrs. John H., 841 Rolfe Dr. 63122
King, Mrs. Samuel J., 5000 S. Broadway 63111
Klein, Mrs. Harry A., 2 Sunswept Dr. 63141
Klippel, Mrs. Bernhardt W., 52 Fair Oaks 63124
Kluegel, Mrs. William A., 2845 Gravois Ave. 63118
Klym, Mrs. Nicholas, 1505 Doris Dr. 63138
Kneal, Mrs. Ellsworth, 725 S. Skinner 63105
Knight, Mrs. Franklin P., 11465 Fairlane Ct. 63136
Knight, Mrs. William A., Jr., 12 Braircliff 63124
Koetter, Mrs. A. F., 6208 Rosebury Dr. 63105
Koon, Mrs. Bernard T., 2623 Gurney Ct. 63110
Kountz, Mrs. William B., 2619 Gurney Ct. 63110
Koutsoumpas, Mrs. William, 3024 Hawthorne Blvd. 63104
Kowert, Mrs. Edward H., 330 Planthurst Dr. 63119
Kramolowsky, Mrs. Helmuth H., 546 Sheffield Ave. 63119
Kuhlman, Mrs. Robert E., 6045 Lansdowne Ave. 63109
Ladd, Mrs, Charles B., 41 Fox Meadows 63127
Langsdorf, Mrs. Herbert S., 3681 Alberta Ave. 63116
Lawton, Mrs. Thomas P., 410 Newstead Ave. N. 63108
Leavy, Mrs. Charles A., 9058 Monmouth Dr. 63117
Lembeck, Mrs. Joseph A., 4103 Flora Pl. 63110
Lewis, Mrs. J. Eugene, Jr., 7129 Kingsbury Ave. 63130
Lischer, Mrs. Carl E., 1 Bridle Creek Rd. 63124
Lohr, Mrs. Curtis H., 601 S. Brentwood Blvd. 63105
Lottes, Mrs. J. Otto, 1028 Winwood Dr. 63124
Macdonald, Mrs. John W., 4525 Lindell Blvd. 63108
Macdonald, Mrs. William D., 63 Briarcliff 63124
Machek, Mrs. Otaker, 16 Carswold 63105
Macnish, Mrs. James M., 229 Bompart 63119
Maher, Mrs. Thomas F., Jr., 20 Willow Oak La. 63122
Malles, Mrs. A. Conrad, 69 Wood Oaks Trail 63124
Martin, Mrs. Raymond T., 3468 Longfellow Blvd. 63104
Mathae, Mrs. George H., 3167 S. Grand Blvd. 63118
McKinney, Mrs. Joseph K., 409 Par Lane 63122
McMahon, Mrs. Alphonse, 5 Covington Meadow 63132
Mehan, Mrs. Donald J., 6517 Walsh 63109
Mendonsa, Mrs. Lawrence E., 138 Ridgecrest Dr., Chesterfield 63017
Merenda, Mrs. Sam J., 45 Berry Rd. Pk. 63122
Merklin, Mrs. Anton L., 5926 Crane Cir. 63109
Mestres, Mrs. Hugh M., 657 Lockwood Cir. 63119
Meyerhardt, Mrs. Milton H., 665 S. Skinker, Apt. 3D 63105
Montgomery, Mrs. Austin F., 18 Southcote Rd. 63144
Morfit, Mrs. John C., 7627 Wydown Blvd. 63105
Moskop, Mrs. Peter G., 3736 Dunnica Ave. 63116
Mowrey, Mrs. William O., 7071 Lindell 63130
Muckerman, Mrs. Richard I. C., 63 Lake Forest 63117
Mueller, Mrs. Robert, 683 W. Lockwood Ave. 63119
Mueller, Mrs. Wilbur K., 1160 S. McKnight Rd. 63117
Muether, Mrs. R. O., 19 Country Life Acres 63131
Mullins, Mrs. John E., 3962 Juniata St. 63116
Murphy, Mrs. James Patrick, 27 Berkshire 63117
Neilson, Mrs. Arthur W., 6349 Alexander Dr. 63105
Nemec, Mrs. Stanley S., 2870 S. Lindberg 63131
Nester, Mrs. Charles A., 3921 Federer Pl. 63116
Neun, Mrs. William F., 5862 Delor 63109
Nye, Mrs. Robert S., 4910 Broadway S. 63111
Obermeyer, Mrs. Charles G., 3957 Holly Hills Blvd. 63116
O'Neal, Mrs. Lawrence W., 1 Nassau 63124
Oppenheimer, Mrs. Henry E., 10 Enfield Rd. 63132
O'Reilly, Mrs. D. Elliott, 9054 Clayton Rd. 63117
Orenstein, Mrs. Joseph M., 417 Jackson Ave., N. 63130
O'Sullivan, Mrs. George A., 6181 Lindell 63112
Parashak, Mrs. Paul M., 7344 Whitehaven Dr. 63123
Peden, Mrs. Joseph C., Jr., 51 Fair Oaks 63124
Peeler, Mrs. J. O., 10,000 Knoll Crest Ct. 63136
Pernoud, Mrs. Flavius G., Jr., 841 Audubon Dr. 63105
Pernoud, Mrs. Michael F., 51 Frontenac 63131
Porporis, Mrs. Arthur A., 824 Renderer Dr. 63122
Powell, Mrs. Earl A., 78 Lake Forest 63117
Powers, Mrs. Pierce W., 4 Crestwood Dr. 63105
Pye, Mrs. Herbert S., 5320 Mardel 63109
Rainey, Mrs. Robert, 5165 Lindell Blvd. 63108
Ramsey, Mrs. Robert H., 10 Lake Pembroke Dr. 63135
Reich, Mrs. Harry A., 5100 Tamm Ave. 63109
Reilly, Mrs. Leo J., 898 Alanson Dr. 63132
Rendeleman, Mrs. George R., Jr., 7486 Amherst Ave. 63130
Rendleman, Mrs. George F., 532 Midvale 63130
Repetto, Mrs. Albert M., 66 Berry Road Pk. 63122
Riodan, Mrs. Laurence M., 410 N. Newstead Ave. 63108
Ritter, Mrs. Hubert A., 6546 Walsh 63109
Roy, Mrs. Joseph A., 55 Berkshire 63117
Ruddell, Mrs. George W., 1333 Highmont 63135
Ryan, Mrs. Robert E., 1 West Point Lane 63131
Sander, Mrs. Robert D., 4214 Flora Pl. 63110
Sante, Mrs. Leroy, 308 Orchard Ave. 63119
Sauer, Mrs. William Nicholas, 8145 Whitburn 63105
Schaper, Mrs. Ernest H., 2423 Bremerton Rd. 63144
Scheer, Mrs. George E., 53 Berkshire 63117
Schmidt, Mrs. Edwin H., 10240 Schuessler Rd. 63128
Schweiss, Mrs. John F., 1414 Westwind Dr. 63131
Sciortino, Mrs. Gaspare, 1019 Laval Dr. 63132
Scott, Mrs. Elwin Powers, 12718 Post Oak Rd. 63131
Sevastianos, Mrs. Aristides, 7121 Circleview Dr. 63123
Sexton, Mrs. Daniel L., 14 Crestwood Dr. 63105
Shaner, Mrs. John, 25 Bellerive Acres 63121
Sherwin, Mrs. Charles F., Lonedell 63060
Sherwin, Mrs. Charles S., 3971 Flora Pl. 63110
Simon, Mrs. Jerome I., 12 Westridge Ct. 63124
Smith, Mrs. Benjamin F,, 104 Aberdeen Pl. 63105
Smith, Mrs. Garland F., 1115 Hampton Park Dr. 63117
Smith, Mrs. Hugh R., 8836 Rock Forest Dr. 63123
Smolik, Mrs. Edmund A., 59 Middlesex Dr. 63144
Spoeneman, Mrs. Walter H., 18 Beritz Ct. 63137

Stanze, Mrs. F. J., 410 N. Newstead, Apt. 8W 63108
Stephens, Mrs. LeRoy, Sylvester 63119
Stendel, Mrs. Charles E., 341 Violet La. 63119
Stone, Mrs. Charles A., 410 N. Newstead, Apt. 155 63108
Strominger, Mrs Donald B., 701 Yale Ave. 63130
Stroud, Mrs. C. Malone, 6232 McPherson 63130
Sudholt, Mrs. Alfred F., Jr., 13398 Conway Rd. 63121
Sullivan, Mrs. Clement J., 6371 Waterman 63130
Summers, Mrs. John B., 4730 Prague 63109
Sweet, Mrs. Herbert C., 3 St. James Ct. 63119
Thale, Mrs. Thomas, 351 Meadow Brook, Ballwin 63011
Thompson, Mrs. J. William, 92 Forest 63117
Thym, Mrs. Henry P., 6 Ridgetop Dr. 63117
Tjoflat, Mrs. Oliver E., 252 Woodbourne 63105
Tremain, Mrs. Irl G., 4254 Flora Pl. 63110
Tucker, Mrs. Eugene F., 1412 Dublin Dr. 63126
Twedell, Mrs. Donald, 5341 Bermuda Road 63121
Uhlemeyer, Mrs. Henry A., Sr., 641 A. Geoffry La. 63132
Vandover, Mrs. John T., Grantwood La. 63123
Vest, Mrs. James C., 2800 Stonington 63131
Virant, Mrs. John A., 119 S. Spoede Rd. 63141
Vitt, Mrs. Alvin E., 113 Frontenac Forest 63131
VonKaenel, Mrs. Joseph E., 551 Barnes Rd. 63124
Wacker, Mrs. Leo L., 9115 Clydesdale Dr. 63126
Walters, Mrs. Harold E., 9 Huntleigh Woods 63131
Wattenberg, Mrs. Carl A., 49 Kingsbury Pl. 63112
Wegner, Mrs. Carl R., 7401 Wellington Ave. 63130
Weinel, Mrs. Francis G., 333 Oakwood Ave. 63119
Weinsberg, Mrs. William C., 6220 Helm 63109
Weir, Mrs. Don C., 625 Sherwood Dr. 63119
Welsh, Mrs. Laurence C., 103 Old Watson Rd. 63119
Wennerman, Mrs. Sam F., 501 Warren 63130
Werner, Mrs. William A., 6015 Childress Ave. 63109
Wiegand, Mrs. Herbert C., 40 Overhill Dr. 63124
Wilcox, Mrs. Claude V., 3175 Ivanhoe Ave. 63139
Wilson, Mrs. Keith S., 9 Crestwood Dr. 63105
Wilucki, Mrs. Melvin R., 6455 Westway Rd. 63109
Winter, Mrs. William C., 1030 Yale 63117
Wirthlin, Mrs. Edward H., 4709 Vienna 63109
Witt, Mrs. Clyde M., 11 Deer Creek Woods 63124
Wood, Mrs. V. Visscher, 6368 Washington 63130
Wotawa, Mrs. William J., 3804 Wilmington 63116
Young, Mrs. H. McClure, 245 Union Blvd. 63108
Zeitler, Mrs. William T., 152 Timbercrest Rd. 63122
Zink, Mrs. Oscar C., 9 The Orchards 63131

ST. LOUIS COUNTY

Ahlvin, Mrs. Robert C., 7061 Waterman, University City 63130
Alex, Mrs. Morris, 18 Crosswinds 63132
Bagby, Mrs. J. W., 7 Country Life Acres 63131
Bailey, Mrs. Wm. Harold, 9157 E. Milton Ave., Overland 64114
Bauer, Mrs. Robert A., 11 Harneywold Dr. 63136
Beam, Mrs. Sim F., 52 Middlesex Dr. 63144
Bergmann, Mrs. John F., 550 Bonhomme Woods 63132
Berndsen, Mrs. Gerard H., 12933 Topping Estates 63131
Bernstein, Mrs. Aaron M., 7033 Cornell Ave., University City 63130
Berwald, Mrs. Irvin I., 747 Old Bonhomme Rd., University City 63130
Blunt, Mrs. Charles P., 30 Plaza Square, Apt. 201 63103
Boles, Mrs. C. Read, 9307 Old Bonhomme Rd. 63132
Briscoe, Mrs. John R., 10053 Briarwood, Ladue 63124
Brown, Mrs. Eugene R., 734 West High Ave., Deland, Florida 32720
Cacioppo, Mrs. Joseph E., 1809 New Jamestown Rd. 63138
Carlson, Mrs. Arne E., 89 Pebblebrook La., Creve Coeur 63141
Carr, Mrs. G. Thomas, 11461 Fair Acres Rd. 63136
Catanzaro, Mrs. R. E., 24 Foxboro Rd. Ladue 63124
Chinsky, Mrs. Murray, 7200 Colgate Ave., University City 63130
Coldwater, Mrs. Kenneth, 1520 Ridgewood Dr. 63126
Combs, Mrs. Joseph, 101 Shady Valley Ct., Chesterfield 63017
Costrino, Mrs. John J., 922 Jeanerette Dr., University City 63130
Costrino, Mrs. Joseph A., 12567 Conway Rd., Creve Coeur 63141
Cowdry, Mrs. Edmund V., Jr., 753 Fairview Ave., Webster Groves 63119
Davidson, Mrs. Morris, 128 Frontenac Forest 63131
Davis, Mrs. Edgar W., 49 Woodcrest Dr. 63124
Denny, Mrs. Robert B., 7827 Delmar Blvd., University City 63130
Deyton, Mrs. John W., 659 Fairview Ave., Webster Groves 63119
Diehr, Mrs. Maurice A., 28 Dromara Rd., Ladue 63124
Dill, Mrs. Foster A., 1551 Bellevue Ave., Richmond Heights 63117
Doisy, Mrs. Robert A., 103 Edwin Ave., Glendale 63122
Dowd, Mrs. James F., 30 Brentmoor Park, Clayton 63105
Dyer, Mrs. Clyde P., Route 2, Box 360, Carmel, California 93921
Efron, Mrs. Joseph, 30 Ladue Estates, Creve Coeur 63141
Eller, Mrs. C. Howe, 1408 Fawnvalley Dr. 63131
Ellison, Mrs. Leroy E., 7346 Myrtle Ave., Maplewood 63143
Emerson, Mrs. Reynolds L., 618 S. Rock Hill Rd., Webster Groves 63119
Estes, Mrs. Jack M., 57 Dellwood 63135
Ferrara, Mrs. John P., 31 Bellerive Acres, Normandy 63121
Finkel, Mrs. Barney W., 7210 Bristol Dr., Normandy 63121
Fletes, Mrs. James W., 5601 Lindell Blvd. 63112
Flynn, Mrs. Thomas T., 429 Forest Green, Webster Groves 63119
Forsman, Mrs. Waldo W., 4128 S. Lindbergh Blvd. 63127
Freiheit, Mrs. Harold J., 3 Devondale La. 63131
Fuchs, Mrs. George J., Route 2, Barnett 65011
Gaines, Mrs. Quentin M., 156 West Mermod Pl., Kirkwood 63122
Gall, Mrs. Ira G., 333 Tanglewood, Ladue 63124
Gearhart, Mrs. Wilbur H., 25 Graeson Ct. 63141
Gitt, Mrs. Joseph J., 1025 S. Warson Rd., Ladue 63124
Goodman, Mrs. Nathaniel, 9 Scarsdale La., Richmond Heights 63117
Goodrich, Mrs. Harold A., 52 S. Rock Hill Rd., Webster Groves 63119
Hale, Mrs. T. H., 245 Union Blvd. 63108
Hall, Mrs. Eugene W., 4300 Roland, Normandy 63121
Hamilton, Mrs. Caldwell K., 11317 Mosley La., Creve Coeur 63141
Hampton, Mrs. Oscar P., 8153 Stanford Ct., University City 63130
Hayward, Mrs. John D., 221 Clay Ave. S., Kirkwood 63122
Hoard, Mrs. Joseph W., 129 E. Kirkham Ave., Webster Groves 63119
Hobbs, Mrs. John E., 25 Woodcrest Dr., Ladue 63124
Hogancamp, Mrs. Charles E., #5 Huntleigh Manor 63131
Holscher, Mrs. Edward C., 234 W. Jackson Rd., Webster Groves 63119
Howe, Mrs. Louis F., 1136 Ridgelynn Dr. 63124
Izmirland, Mrs. Grant, 525 Fairview Ave., Webster Groves 63119
Jacobs, Mrs. Frederick, 7308 Winchester Dr., Normandy 63121
Kamuran, Mrs. Ozgoncu, 9074 West Swan Cir., Brentwood 63144
Kaskie, Mrs. Clifford R., 30 Berkshire, Richmond Heights 63117
Kendis, Mrs. Joseph B., 19 Warson Terr., Clayton 63124
Kilker, Mrs. Clarence H., 7231 Winchester Dr., Normandy 63121
Kimelman, Mrs. Nathan, 21 Granada Way 63124
King, Mrs. E. E., 2915 Bellerive Dr., Normandy 63121
Kingsland, Mrs. Robert C., 12 Oak Terr., Webster Groves 63119
Klippel, Mrs. Allen, 7112 Wydown Blvd., Clayton 63105
Koch, Mrs. Robert E., 10036 Conway Rd. 63124
Kopp, Mrs. Jules H., 23 Arbor Terr. 63132
Krieger, Mrs. John Louis, 28 Berry Rd. Park 63122
Lansche, Mrs. W. Edward, 809 Rampart Dr. 63122
Leslie, Mrs. C. H., 1313 N. Harrison Ave., Kirkwood 63122
Lipschitz, Mrs. Ervin, 30 Kentom Pl. 63132
Lissner, Mrs. Bart, 6227 McPherson, Clayton 63105
Lord, Mrs. Richard, 8 Mayfair Rd. 63124
Luehrs, Mrs. Robert O., 900 S. Hanley Rd., Apt. 2A, Clayton 63105
Lund, Mrs. Herluf G., 58 Portland Dr., Frontenac 63131
Magidson, Mrs. S. Joseph, 615 Forest Ct., Clayton 63105
Magness, Mrs. Guy N., 7727 Blackberry La., University City 63130
Mahe, Mrs. George A., 8039 Park Dr., Richmond Heights 63117
Marcus, Mrs. M. D., 8227 Balson Ave., University City 63130
Meyer, Mrs. Robert A., 7509 Wayne Ave.. University City 63130
McLean, Mrs. Royal C., 520 W. Jewel, Kirkwood 63122
Meador, Mrs. James R., 9 Bellerive Acres, Normandy 63121
Mezera, Mrs. Raymond A., 7135 Forsyth Blvd., 63105
Miles, Mrs. Paul W., 15 Ridge Creek Rd., Creve Coeur 63141
Miller, Mrs. Charles, Jr., 206 Fillmore, Kirkwood 63122
Molden, Mrs. Charles A., 36 Bellerive Acres, Normandy 63121
Moore, Mrs. Harry G., 17 Westmoreland Pl. 63108
Moore, Mrs. William E., 7277 N. Roland Blvd., Normandy 63121
Mueller, Mrs. Robert J., 40 Huntleigh Woods 63131
Nakada, Mrs. James R., 2 Huntleigh Downs 63131
Nelson, Mrs. J. Roger, 501 Fox Ridge Rd., Frontenac 63131
O'Connell, Mrs. John J.. 1937 O'Connell Ave., Overland 63114
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Information for Contributors

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County Society News

FIRST DISTRICT

COUNCILOR
JOSEPH FISHER, M.D., ST. JOSEPH

Buchanan County Medical Society

Midland Empire M.D. Day was sponsored by the Buchanan County Medical Society on June 2 at the St. Joseph Country Club. Thirty physicians from St. Joseph and the surrounding area attended the first of what is planned to be an annual event. Golf, swimming and fishing were offered to those attending the affair.

Arrangements for the activities, including a gourmet dinner and a clinical-pathological conference, were made by the program committee: Drs. Charles R. Willman, chairman, Richard O. Craig and R. Philip Acuff.

Golf prizes were won by: Dr. Wallace McDonald for low gross score; Dr. Martin H. Christ, best master score; Dr. Elvin D. Imes, most 5's; and Drs. Philip C. Lehman and Donald E. Sklenar, tied for the most 7's.

The clinical-pathological conference was presented by Drs. Richard V. Riddell and Willman.

Dr. William Redmond, president, presided at the meeting.

John L. Mothershead, M.D., *Secretary*

Grand River Medical Society

The Grand River Medical Society and Auxiliary held their regular monthly dinner meeting at the Frontier House near Chillicothe on Thursday evening, June 9. Thirty-five members and guests were in attendance.

Drs. E. J. Mairs and Herbert C. Kimberlin of Trenton and George C. Carpenter of Chillicothe were awarded certificates of honorary lifetime membership in the Grand River Medical Society in appreciation for more than 50 years of service to their communities and the medical profession. Dr. Donald Dowell of Chillicothe made the presentations. Dr. Kimberlin was present to accept his certificate. Katherine Mairs accepted Dr. Maris' certificate and Dr. Leonard Fair accepted Dr. Carpenter's certificate in their absence.

Lieutenant Joseph Adelman of the Kansas City Police Department provided the entertainment with a very funny and entertaining presentation.

Dr. Windsor Atcheson of Princeton became a new member at the meeting.

There will be no meetings in July and August with the next meeting scheduled for September 8.

Albert D. Cross, M.D., *Secretary*

TENTH DISTRICT

COUNCILOR
W. D. ENGLISH, M.D., CARDWELL

Mineral Area County Medical Society

The Mineral Area County Medical Society held its regular monthly meeting May 26 at the usual meeting place in the Hoctor Building of the State Hospital, Farmington. Dr. C. W. Chastain called the meeting to order at 8:00 p.m.

Special guests of the evening were: Wallace D. English, Cardwell, Councilor of this district; Joseph F. Lutkewitte, Ste. Genevieve; Oscar A. Carron, Perryville; Thomas Donnell and Harold Donnell, De Soto; and Jacob Sines, Ph.D., from Missouri University at Columbia, who was presented by Retus W. Osborn, III.

The speaker for the evening, Mr. E. H. Borman, Jr., Manager, Medicare Relations Department of General American Life Insurance Company of St. Louis, was introduced by the President. Mr. Borman gave an interesting discussion on "Problems and Procedures of Medicare." The program was of extreme interest to all present and there was an active participation between the guest speaker and the members present. After a brief intermission, the business meeting was called to order around 9:50 p.m. The minutes of the previous meeting were read and approved.

A letter from Arthur D. Newcomb asking for membership was read. No action was taken. The President instructed the Secretary to send Dr.

Newcomb a letter inviting him to the picnic of the Society and reminding him that, according to the bylaws, he has to be present at our meeting in order to be eligible for membership.

Dr. C. E. Michaelis resigned as secretary, giving the reason that he is planning a residency training in California starting July 1.

The President asked for a motion that a new secretary should be appointed. The motion was made by Dr. Mullen that Dr. Jimenez be appointed secretary. The motion was seconded by Dr. Huckstep. The motion was voted on and carried by acclamation.

The Secretary was instructed to notify the President of the Auxiliary in regard to the Annual Picnic. The Society will provide the funds for the food and the Auxiliary will provide the drinks. The Auxiliary will designate a day for the Annual Picnic.

In attendance were Drs. Chastain, Watkins, Ford, Taylor, Grossman, Burcham, Huckstep, Osborn, Hunt, Crouch, Michaelis, Foster, Turner, Jimenez, Mullen and Dennis.

JOSE JIMENEZ, M.D., *Secretary*

WANTED

Scientific papers relating to clinical investigation, basic medical science or clinical medicine. Papers should be planned with 10-minute "in person" presentation in mind. Authors of selected works will be invited to present their papers at the 109th Annual Session of the Missouri State Medical Association . . . April 6-9, 1967 . . . Chase-Park Plaza Hotel . . . St. Louis.

Send abstracts to:

John I. Matthews, M.D., Secretary
Missouri State Medical Association
634 N. Grand
St. Louis, Missouri 63103

Missouri Medical Meetings

Component Society Meeting Dates

Audrain County Medical Society—third Monday of each month.
Barton-Dade County Medical Society—third Wednesday of each month.
Benton County Medical Society—meets only on call.
Boone County Medical Society—first Tuesday of each month.
Buchanan County Medical Society—first Wednesday of each month.
Butler-Ripley-Wayne County Medical Society—first Wednesday of each month.
Callaway County Medical Society—third Thursday of each month.
Cape Girardeau County Medical Society—first Monday of each month.
Chariton-Macon-Monroe-Randolph County Medical Society—second Thursday of each month, September through May.
Clay County Medical Society—last Tuesday of each month.
Clinton County Medical Society—meets only on call.
Cole County Medical Society—fourth Tuesday of each month.
Cooper County Medical Society—first Monday after the 15th of each month.
Dallas-Hickory-Polk County Medical Society—first Wednesday of each month.
Dunklin County Medical Society—first Tuesday of each month.
Franklin-Gasconade-Warren County Medical Society—first Tuesday of each month at the St. Francis Hospital, Washington, at 7:00 p.m.
Grand River Medical Society (Caldwell-Carroll-Livingston, Grundy-Daviess, Harrison, Linn, Mercer, DeKalb)—second Thursday of each month.
Greene County Medical Society—fourth Friday of each month.
Henry County Medical Society—meets only on call.
Howard County Medical Society—meets only on call.
Jackson County Medical Society—March, May, October and December.
Jasper County Medical Society—second Tuesday of each month, September through May.
Jefferson County Medical Society—meets fourth Tuesday of each month.
Johnson County Medical Society—meets only on call.
Lafayette-Ray County Medical Society—second Tuesday of each month at 7:30 p.m., at the Victory Cafe, Lexington.
Lewis-Clark-Scotland County Medical Society—meets only on call.
Lincoln-St. Charles County Medical Society—fourth Tuesday of each month.
Marion-Ralls-Shelby County Medical Society—third Tuesday of each month, 7:30 p.m.
Mid-Missouri County Medical Society (Phelps-Crawford-Dent-Pulaski-Maries-Laclede)—fourth Thursday of each month.
Miller County Medical Society—meets only on call.
Mineral Area County Medical Society (St. Francois-Iron-Madison-Washington-Reynolds-Ste. Genevieve)—fourth Thursday of each month.
Moniteau County Medical Society—second Thursday of each month.
Nodaway-Holt-Atchison-Gentry-Worth County Medical Society—second Tuesday of each month.
North Central Counties Medical Society (Adair-Schuyler-Knox-Sullivan-Putnam)—meets only on call.
Ozarks Medical Society (Barry-Lawrence-Stone-Christian-Taney-Newton-McDonald)—second Tuesday of each month, September through June.
Pemiscot County Medical Society—third Thursday of each month.
Perry County Medical Society—second Thursday of each month.
Pettis County Medical Society—third Monday each month, September through May.
Pike County Medical Society—third Tuesday of each month.
Platte County Medical Society—meets only on call.
St. Louis County Medical Society—second and fourth Wednesday of each month.
St. Louis Medical Society—third Tuesday of each month, October through May.
Semo County Medical Society (Stoddard, New Madrid, Mississippi, Scott)—third Wednesday of each month, September through May.
South Central Counties Medical Society (Howell-Oregon-Texas-Wright-Douglass-Ozark)—fourth Wednesday of each month.
Webster County Medical Society—meets only on call.
West Central Missouri Society (Bates-Cass-St. Clair-Vernon-Cedar)—second Thursday of each month.

A Key Site of Action of the Protoveratrine A in Salutensin

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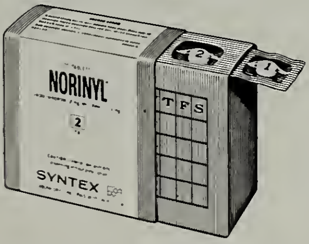

Contraindications: Thrombophlebitis or pulmonary embolism (current or past). Existing evidence does not support a causal relationship between use of Norinyl and development of thromboembolism. While a study which was conducted does not resolve definitively the possible etiologic relationship between progestational agents and intravascular clotting, it tends to confirm the findings of the Ad Hoc Advisory Committee appointed by the Food and Drug Administration to review this possibility. Cardiac, renal or hepatic dysfunction. Carcinoma of the breast or genital tract. Patients with a history of psychic depression should be carefully studied and the drug discontinued if depression recurs to marked degree. Patients with a history of cerebral vascular accident.
Warning: Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions, medication should be withdrawn.
Precautions: By May 1963, experience with norethindrone 2 mg.—mestranol 0.1 mg. had extended over 24 months. Through miscalculation, omission or error in taking the recommended dosage of Norinyl, pregnancy may result. If regular menses fail to appear and treatment schedule has not been adhered to, or if patient misses two menstrual periods, possibility of pregnancy should be resolved before resuming Norinyl. If pregnancy is established, Norinyl should be discontinued during period of gestation since virilization of the female fetus has been reported with oral use of progestational agents or estrogen. When lactation is desired, withhold Norinyl until nursing needs are established. Existing uterine fibroids may increase in size. In metabolic or endocrine disorders, careful clinical preevaluation is indicated. A few patients without evidence of hyperthyroidism had elevated serum protein-bound iodine levels, which in the light of present knowledge, does not necessarily imply hyperthyroidism. Protein-bound iodine increased following estrogen administration. Bromsulphalein retention has occurred in up to 25% of patients without evidence of hepatic dysfunction. Studies from 24-hour urine collections have shown an increase in aldosterone and 17-ketosteroids and decrease in 17-hydroxycorticoid levels. Thus, Norinyl should be discontinued prior to and during thyroid, liver or adrenal function tests. Because progestational agents may cause fluid retention, conditions such as epilepsy, migraine and asthma require careful observation. Thus far no deleterious effect on pituitary, ovarian or adrenal function has been noted; however, long-range possible effect on these and other organs must await more prolonged observation. Norinyl should be used with caution in patients with bone, renal or any disease involving calcium or phosphorus metabolism.
Side Effects: Intermenstrual bleeding; amenorrhea; symptoms resembling early pregnancy, such as nausea, breast engorgement or enlargement, chloasma and minor degree of fluid retention (if these should occur and patient has not strictly adhered to medication plan, she should be tested for pregnancy); weight gain; subjective complaints such as headache, dizziness, nervousness, irritability; in a few patients libido was increased. In a total of 3,090 patients, 2.2% discontinued medication because of nausea.
NOTE: See sections on contraindications and precautions for possible side effects on other organ systems.
Dosage and Administration: One Norinyl tablet orally for 20 days, commencing on day 5 through and including day 24 of the menstrual cycle. (Day 1 is the first day of menstrual bleeding.)
Availability: Dispensers of 20 and 60 tablets; bottles of 100.

References: 1. Council on Drugs. JAMA 187:664 (Feb. 29) 1964. 2. Bryans, F. E.: Canad Med Ass J 92:287 (Feb. 6) 1965. 3. Goldzieher, J. W.: Med Clin N Amer 48:529 (Mar.) 1964. 4. Cohen, M. R.: Paper presented at Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med Sci 16:26 (Nov.) 1965. 5. Hammond, D. O.: Ibid. 6. Rice-Wray, E., Goldzieher, J. W., and Aranda-Rosell, A.: Fertil Steril 14:402 (Jul.-Aug.) 1963. 7. Goldzieher, J. W., Moses, L. E., and Ellis, L. T.: JAMA 180:359 (May 5) 1962. 8. Kempers, R. D.: GP 29:88 (Jan.) 1964. 9. Tyler, E. T.: JAMA 187:562 (Feb. 22) 1964. 10. Rudel, H. W., Martinez-Manautou, J., and Maqueo-Topete, M.: Fertil Steril 16:158 (Mar.-Apr.) 1965. 11. Flowers, C. E., Jr.: N Carolina Med J 25:139 (Apr.) 1964. 12. Goldzieher, J. W.: Appl Ther 6:503 (June) 1964. 13. The Control of Fertility. Report adopted by the Committee on Human Reproduction of the American Medical Association. JAMA 194:462 (Oct. 25) 1965. 14. Flowers, C. E., Jr.: JAMA 188:1115 (June 29) 1964. 15. Merritt, R. I.: Appl Ther 6:427 (May) 1964. 16. Newland, D. O.: Paper presented at Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med Sci 16:26 (Nov.) 1965.

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Council Approves 'Prevailing Fee' Study

Missouri Medical Service (St. Louis Blue Shield) has initiated a survey and study to assemble data which might be used in establishing a "prevailing fee" program for the Blue Shield in this area. The Missouri State Medical Association Council at its May 7-8 meeting endorsed the idea of a preliminary investigation with the understanding that no action would be taken toward implementing a "prevailing fee" plan without further discussion. Dr. Raymond O. Muether, President of Missouri Medical Service, assured the Council that his organization would not consider putting such a program into effect without the full approval of MSMA.

Doctor Muether explained that considerable information would have to be collected and analyzed before a concrete proposal could be drafted. Thomas R. O'Brien, Executive Director of Medical Service, said that the necessary information will be obtained from questionnaires which will be sent to individual physicians. The questionnaires will be prepared on the basis of medical specialties and sub-specialties. O'Brien said that it will be fall before enough information has been assembled to begin drafting a definite proposal.

The new home of MSMA after September 1, 1966 will be the Medical Arts Building, 515 East High Street, Jefferson City. The Council selected that space and authorized a two year lease after Dr. David Kerr, Chairman, had reported on the various possible office sites in Jefferson City. The Executive Office is being moved from St. Louis in compliance with action taken by the 1966 Annual Session of the House of Delegates. The Council also authorized the Treasurer to expend the funds necessary to move the office furnishings and the household belongings of employees who will be making the move.

The Council endorsed a tentative proposal by the University of Missouri School of Medicine to participate in the Community Health Planning phase of Title I under the Higher Education Act. Endorsement was given with the understanding that any program will be limited to teaching and research and will be conducted under the aegis of the School of Medicine. It was also recommended that any program be correlated wherever possible with the Governor's Advisory Council on Heart, Cancer and Stroke.

Dr. Vernon Wilson, Dean of the School of Medicine, informed the Council that the University Medical Center has been selected by the Governor as the state agency to apply for planning funds for the Missouri Regional Heart, Cancer and Stroke program. As a result the University has applied for a $300,000 planning grant. Dean Wilson outlined the committee and council organization which will plan and supervise activities in the Heart, Cancer and Stroke program.

In that connection it was announced that Mr. Nathan J. Stark of Kansas City, Chairman of the Advisory Council of the Missouri Regional Program for Heart, Cancer and Stroke, had invited MSMA to be a charter member of the Liaison Sub-Committee. The Council agreed to accept the invitation and MSMA President, Dr. Byron Stuart, was named to represent the Association at the next Liaison Sub-Committee meeting.

Dr. John I. Matthews reported that progress is being made by the Scientific and Postgraduate Work Committee in getting the state's three medical schools more involved in the continuing education needs and programs of practicing physicians. He also outlined the tentative program for the 1967 MSMA Annual Session.

The Council discussed a proposal to combine the annual dues statements of local medical societies, MSMA, AMA and the Missouri Medical Political Action Committee. A single combined bill is being used by some other state associations. The Executive Secretary was instructed to investigate the subject and to take such action as he deems practical. An additional suggestion that MSMA and Auxiliary dues statements be combined in a single bill was referred to the Committee on Constitution and By-Laws for study.

The Council was informed that Dr. Henry Allen had resigned as Chairman of the Medical Advisory Committee to the Selective Service System for Missouri. It was noted that Doctor Allen had served long and diligently in the post and that it will be difficult to find someone to succeed him.

On recommendation of Dr. Joseph V. Finnegan, Editor of Missouri Medicine, the Council approved the nomination of Dr. John S. Spratt, Jr. of Columbia as a new member of the Editorial Board.

Doctor Stuart announced the following appointments to newly created committees:

Standing Committee on Legislative Matters: John I. Matthews, Jefferson City, Chairman; Hector W. Benoit, Jr., Kansas City; Byron M. Stuart, Boonville; Doyle C. McCraw, Bolivar; David N. Kerr, St. Louis; Associate members: J. Loren Washburn, Versailles; Stanley S. Peterson, Springfield.

Special Medico-Legal Committee: Leonard T. Furlow, St. Louis, Chairman; Charles B. Wheeler, Jr., Kansas City; Lysle M. Bach, Hannibal; Frederick J. McCoy, Kansas City; Daniel L. Yancey, Springfield; John J. Modlin, Columbia; Lee T. Ford, Jr., St. Louis.

Special Committee on Nursing and Paramedical Personnel: John H. Walters, Columbia, Chairman; Manning E. Grimes, St. Joseph; Joseph Cope, Lexington; Angelo Lapi, Kansas City; A. J. Signorelli, St. Louis.

Special Committee on Alcoholism: Joseph Kendis, St. Louis, Chairman; Max Teare, Kansas City; Evelyn Griffin, Buffalo; George H. Lawrence, St. Louis; Tom R. Burcham, Jr., Farmington.

A Special Committee on Specialty Medicine Groups will be named as soon as the state specialty organizations decide on the structure, representation and responsibilities which they want the Committee to have.

Council members attending the May 7-8 meeting were:

David N. Kerr, Chairman, 3rd District
Doyle C. McCraw, Vice Chairman, 8th District
Lysle M. Bach, 2nd District
Robert A. Mayer, 4th District
James C. Cope, 5th District
Rolla B. Wray, 6th District
Gerald L. Miller, 7th District
E. A. Stricker, 9th District
W. D. English, 10th District
Byron M. Stuart, MSMA President
Hector W. Benoit, Jr., MSMA President-Elect
Paul R. Whitener, MSMA Immediate Past President
John I. Matthews, MSMA Secretary
Walter T. Gunn, MSMA Treasurer

The next meeting of the Council will be held in Kansas City, September 24-25, 1966.

This Council report covers only the highlights of the May meeting. The complete official report of Council proceedings is on file in the Executive Office of MSMA and copies have been sent to all members of the Council and to component medical societies.

New Executive Office Address

Effective September 1, 1966 the address of the MSMA Executive Office will be:

515 E. High Street
Jefferson City, Mo. 65101

The new telephone number will be:
Area Code: 314
Number: 636-5151

Area M.D.'s Eligible For European Tour

A "Doctor-to-Doctor" travel program emphasizing medical activities in the Soviet Union and five other eastern and western European countries will be conducted in September and October by midwest medical leaders. The group will participate in the goodwill mission as a People-to-People International Travel activity. Kenneth C. Hollweg, M.D., former MSMA President, will lead the delegation for visits with counterparts and government officials in Belgium, Sweden, the Soviet Union, Poland, Czechoslovakia and Germany.

Medical doctors may still join the group and may confirm reservations for their wives. The tour is planned to stimulate an exchange of ideas, information, concerns and common interests. "This tour is not devoted to tourism. It is designed to improve understanding and friendship between men and women of different cultural backgrounds but similar interests," stated Dr. Hollweg.

People-to-People is a nonprofit, nonpolitical effort of private citizens to promote international understanding. The program was launched by President Dwight D. Eisenhower in the wake of World War II to provide opportunities for individuals to communicate with their counterparts around the world in the spirit of friendly interchange.

The physician travel group will leave Kennedy International Airport in New York City on September 27 and will return on October 18. Details concerning the tour may be obtained from Dr. Hollweg at:

4320 Wornall Road
Kansas City, Missouri 64111
Phone: LO 1-5858

Congressman Cites Shaw's Viet Nam Service

The feature article "Viet Nam: Land of Medical Need," which was written by William J. Shaw, Sr., M.D., and which appeared in the February 1966 issue of Missouri Medicine, has been placed in the *Congressional Record* by Representative Richard H. Ichord of Missouri's 8th Congressional District. In introducing the article, the Congressman was high in his praise of Dr. Shaw specifically and of the medical profession generally.

As officially reported, Congressman Ichord said:

"Mr. Speaker, doctors and saints have been closely allied many times in literature and song, and this synonymity, rather than antithesis, is close to reality in many instances.

"The great Greek doctor, called the Father of Medicine, Hippocrates, envisioned the roll of the doctor in the 20th century and for all time. The physician's oath, which Hippocrates drafted some time during his life—from 460 to 377 B.C.—contained these words:

> I will keep pure and holy both my life and my art. . . . Now if I carry out this oath and break it not, may I gain forever reputation among men for my life and my art.

"This is the oath of medical men, those dedicated to the cause and to their profession. Duty calls these dedicated servants of men at any hour and at any time and at any age, and they respond with loyalty to that oath.

"A case in point is Dr. William J. Shaw, Sr., of Fayette, Mo. Dr. Shaw responded to the calls of duty during a long and faithful practice of medicine in Missouri. He retired in March 1965 at the age of 71 to enjoy a leisure life, full of satisfactions and personal achievements. Duty called once more, however, and he responded to the President's appeal to the American Medical Association for volunteer physicians to serve the civilian populace in South Vietnam, the land of medical needs. At the age of 72, when most people are content to enjoy the comforts of retirement, Dr. Shaw abandoned his retirement in response to the President's call and worked for two months in South Vietnam. Again, Dr. Shaw heeded the words of Hippocrates:

> Sometimes give your services for nothing, calling to mind a previous benefaction or present satisfaction. . . . For where there is love of man, there is also love of the art. For some patients, though conscious that their condition is perilous, recover their health simply through their contentment with the goodness of the physician.

"Dr. Shaw has recounted his general impressions of the experience in the February 1966 issue of Missouri Medicine, the official publication of the Missouri State Medical Association.

"Mr. Speaker, I stand in tribute to the unselfish devotion of Dr. Shaw, a man whose dedication conforms to the highest traditions of his country and of his profession dictated by Hippocrates more than 2,000 years ago. At this point in the *Record*, I should like to have Dr. Shaw's article from Missouri Medicine reprinted for the benefit of all my colleagues."

A reprint of the complete article followed these introductory remarks by Congressman Ichord.

ACCIDENT AND HEALTH INSURANCE

The Missouri State Medical Association since 1943 has made available to its members a Special Disability Income Benefits Policy issued by our "Loyalty Group" Companies now a part of the America Fore-Loyalty Group Insurance Companies—the largest casualty-fire underwriting group in the world. The low cost at which the policy is offered is made possible through the purchasing power of the membership of your association as a whole.
Now, new plans offering long term income benefits as well as a special Major Hospital-Nurse Expense Plan have been added to the program. We suggest you who are already enrolled make sure your policy includes the maximum benefits. Those of you not enrolled, we suggest you do so today. Call or write:

Eggert-Carroll-Schroeder Agency, Inc.
111 North Fourth St., St. Louis 2, Mo.
(Eastern Missouri Administrators)

Altman-Singleton & Co.
114 W. 10th St., Kansas City 5, Mo.
(Western Missouri Administrators)

Anatomy of
Low Back Pain #1

the sedentary life is often the seat of low back pain

The human spine is not engineered fc
prolonged sitting at desks, pianos, typ
writers and drafting boards. The stresse
set up by the heavy, forward-tilted hea
and trunk, balanced precariously on a
insufficient base, result in strain of th
dorsal musculature, particularly at th
low lumbar level.

The unusual muscle-relaxant and ana
gesic properties of 'Soma' make it espe
cially useful in the treatment of low bac
sprains and strains. 'Soma' is widel
prescribed ☐ **to relieve pain** ☐ **to rela**
muscles ☐ **to restore mobility.**

Indications: 'Soma' is useful for management
muscle spasm, pain, and stiffness in a variety
inflammatory, traumatic, and degenerative musc
loskeletal conditions. It also may act to normaliz
motor activity in certain neurologic disturbance

Contraindications: Allergic or idiosyncratic rea
tions to carisoprodol.

Precautions: 'Soma', like other central nervou
system depressants, should be used with cautio
in patients with known propensity for taking e
cessive quantities of drugs and in patients wit
known sensitivity to compounds of similar chem
cal structure, e.g., meprobamate.

Side Effects: The only side effect reported with ar
frequency is sleepiness, usually on higher tha
recommended doses. An occasional patient ma
not tolerate carisoprodol because of an individu
reaction, such as a sensation of weakness. Othe
rarely observed reactions have included dizzines
ataxia, tremor, agitation, irritability, headache, i
crease in eosinophil count, flushing of face, an
gastrointestinal symptoms.

One instance each of pancytopenia and leuk
penia, occurring when carisoprodol was admi
istered with other drugs, has been reported, as ha
an instance of fixed drug eruption with carisoprod
and subsequent cross reaction to meprobamat
Rare allergic reactions, usually mild, have include
one case each of anaphylactoid reaction with mi
shock and angioneurotic edema with respirato
difficulty, both reversed with appropriate therap
In cases of allergic or hypersensitivity reaction
carisoprodol should be discontinued and appropr
ate therapy initiated. Suicidal attempts may pr
duce coma and/or mild shock and respirato
depression.

Dosage: Usual adult dose is one 350 mg. tabl
three times daily and at bedtime.

Supplied: Two Strengths: 350 mg. white table
and 250 mg. orange, two-piece capsules.

Before prescribing, consult package circular.

for the relief of low back sprains and strain

SOMA
(CARISOPRODOL

Wallace Laboratories, Cranbury, N.J.
26S01.

medical melange

Notes of interest from Here .... and There

Dr. **Max Franklin,** President Elect of the St. Louis Medical Society, and Dr. **Miles Whitener,** Editor of the *St. Louis County Medical Society Bulletin,* have been presented with Vitale Medical Foundation Awards. Dr. Franklin was honored for his community service and "for his courage in standing up and being counted for his principles" while defending an unpopular side of an issue. Dr. Whitener's award was given in recognition to his services to organized medicine and for his "hard hitting" *Bulletin* copy which has received national acclaim.

Gerald L. Miller, M.D., MSMA 7th District Councilor and former President of Jackson County Medical Society, has been elected president of the Kansas City Blue Shield Board of Directors. Other new officers include: **John H. Mayer,** M.D., first vice president; **E. E. Wadlow,** M.D., second vice president; and Drs. **Maxwell G. Berry, G. Comer Bates** and **Earl C. Sifers,** members of the Board of Directors. . . . Dr. **Lyle B. Knight** has been named "Family Physician of the Year" by the Kansas City Academy of General Practice. Dr. Knight has practiced in Lee's Summit for the past 30 years.

Curtis H. Lohr, M.D., has retired as superintendent and medical director of the St. Louis County Hospital. He said that he is leaving the post, which he has held since 1937, for health reasons. **Raymond O. Muether,** M.D., was named to serve in an acting capacity until permanent appointments can be made. . . . Dr. **James J. Seeley** has been elected president of the St. Louis-St. Louis County unit of the American Cancer Society.

An estimated 150 physicans, their wives and guests attended one or more sessions of an afternoon-evening Medicare Seminar in Springfield on June 17. The event was sponsored by the Greene County Medical Society and featured an appearance by former AMA President, **Edward R. Annis,** M.D. . . . Drs. **James Leslie, Jr.** and **Donald Shull** interrupted their hospital rounds recently to pay a special visit to the hospital room of State Senator Michael Kinney of St. Louis. The elderly law maker was confined in a Jefferson City hospital with a broken hip. Drs. Leslie and Shull formally presented him with a resolution from MSMA commending him for his long and active interest in medical and health legislation.

Oral poliovirus vaccine (OPV) is the most effective immunization procedure for the prevention of polio in children, and should be used in community-wide vaccination programs and for routine immunization in infancy and childhood. This recommendation and other recommended procedures for immunization against such diseases as diphtheria, tetanus, whooping cough, measles and smallpox appear in the newly-revised 15th edition of the *Report of the Committee on the Control of Infectious Diseases,* released recently by the American Academy of Pediatrics. The report, also called the *Redbook,* points out that inactivated polio vaccine (IPV) is also effective, but that evaluation reveals a clearcut superiority of oral polio vaccine "from the point of view of ease of administration, immunogenic effectiveness, protective capacity, and potential for the eradication of poliomyelitis."

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RODGER W. LAMBIE, M.D. *and*
SIDNEY RUBIN, M.D., *Kansas City*

Occult Jejunal Intussusception: A Case of Anemia

Case Report

The three most common causes of bloody stools in the pediatric age group are intussusception, Meckel's diverticulum and polyps of the large bowel.[1] Intussusception accounts for more cases of bloody stools than the two other disorders combined. The most frequent type of intussusception is ileocolic and is seen most often in children less than two years of age. Males are affected more frequently than are females, and an etiologic agent can be found in only a small percentage of cases.[2] Colicky abdominal pain, vomiting, a palpable abdominal mass and occult or gross blood in the stools represent the four cardinal signs of acute intussusception and are well documented in the literature.

In 1960 Ward[3] reported a case of a 20-year-old male who complained of frontal headaches and dark red blood in his stools of four days' duration. There was no history of abdominal pain or indigestion. Physical examination was essentially normal except for blood in the stools on rectal examination. Gastrointestinal studies were normal. At laparotomy 14 days later an intussusception was found just beyond the duodenojejunal junction. No cause was found for the intussusception.

The purpose of this paper is to report a similar case of chronic jejunojejunal intussusception which presented clinically as a chronic anemia.

Case Report

A 10-year-old white female was admitted to the hospital on November 10, 1964 with persistent anemia of approximately two months' duration.

In 1958, at the age of four, she was admitted to the hospital with gastroenteritis and dehydration. Her hemoglobin concentration was normal, she responded to treatment and was discharged three days later. On routine physical examination in 1960 she was found to have a moderate anemia of 10.5 gms. She was started on oral iron preparations, and three months later the hemoglobin rose to 12.5 gms. On follow-up examinations in July 1963 and June 1964 she was found to be healthy and to have a normal hemoglobin.

On September 5, 1964 she was seen with an

Jejunal intussusceptions are notorious for their ill-defined symptoms and often are of chronic duration by the time proper diagnosis is made. The authors review recent literature on the subject and report a case of chronic jejunojejunal intussusception which presented clinically as a chronic anemia. This type of intussusception is not necessarily accompanied by clinical symptoms of an acute abdomen. Doctors Lambie and Rubin are from the Department of Radiology, Menorah Medical Center.

upper respiratory infection and her hemoglobin had dropped to 8.3 gms. At this time a history of vague abdominal pain was obtained, but the pain was never severe enough to necessitate absence from school. A scotchtape test was positive for pinworms and the patient was started on pyrivinium pamoate and oral iron preparations. On September 26 the hemoglobin concentration was 8.4 gms, hematocrit 28%, white blood count 4,800 with 39 segs, 3 eos, 52 lymphs and 6 monos. There was a 1-plus hypochromia, 1-plus anisocytosis and slight poikilocytosis. Red blood cell count was 3,600,000. The reticulocyte count was 1.9% and the platelet count was 212,000. Serum protein electrophoresis was within normal limits. Repeated stool samples were negative for occult blood. The patient was continued on both parenteral and intramuscular iron preparations.

Her physical examination was essentially normal on November 10 when she entered the hospital. The abdomen was soft and nontender and there were no abnormal palpable masses. Hemoglobin was 8.6 gms; hematocrit 27%; wbc 4,400 with 51 segs, 1 meta, 6 eos, 36 lymphs and 6 monos. Reticulocyte count was 2.1%. Urinalysis was straw colored; pH 5; specific gravity 1.024; albumin, trace; sugar, negative; acetone, trace; an occasional rbc and 4-6 wbc's. Stools showed 4-plus blood, but were negative for ova and parasites.

On radiological examination of the upper gastrointestinal tract a typical "coiled spring" appearance was noted in the proximal jejunum, just distal to the ligament of Treitz, extending distally for 14 cm (Fig. 1). This segment of jejunum was dilated to 5 cm but a tumor mass could not be elicited on pressure spot films. There was no delay in the free passage of barium through this segment either fluoroscopically or on the delayed films (Fig. 2). The child denied any abdominal complaints prior to or during the examination. The study was repeated the following day, using cineradiography, and identical findings were observed.

An exploratory laparotomy was performed on November 19. A polypoid tumor, about 5 cm in diameter, was found at the ligament of Treitz with intussusception into the distal jejunum. There was edema and dilatation of the jejunum for a distance of 12 inches (Fig. 3). The lesion was removed by resecting a segment of jejunum 11 cm in length and performing an end-to-end anastomosis. On opening the resected specimen a large polyp (4.5 cm x 3 cm x 2.5 cm) was found connected to a 4 cm long stalk. A second sessile polyp, 1 cm in diameter, was found distal to the larger one (Fig. 4). Microscopic sections showed both polyps to be benign polypoid adenomas.

The patient's postoperative course was uncomplicated and she was discharged in excellent condition on December 1, 1964.

Discussion

Cases of intussusception can be classified on the basis of location and on the severity and

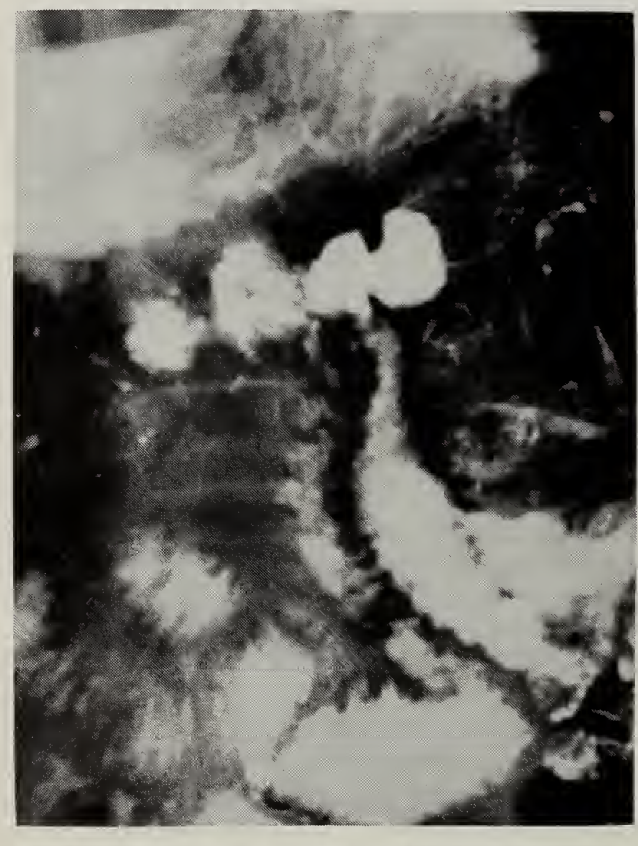

Fig. 1 The typical coiled spring effect of the proximal jejunum just distal to the ligament of Treitz.

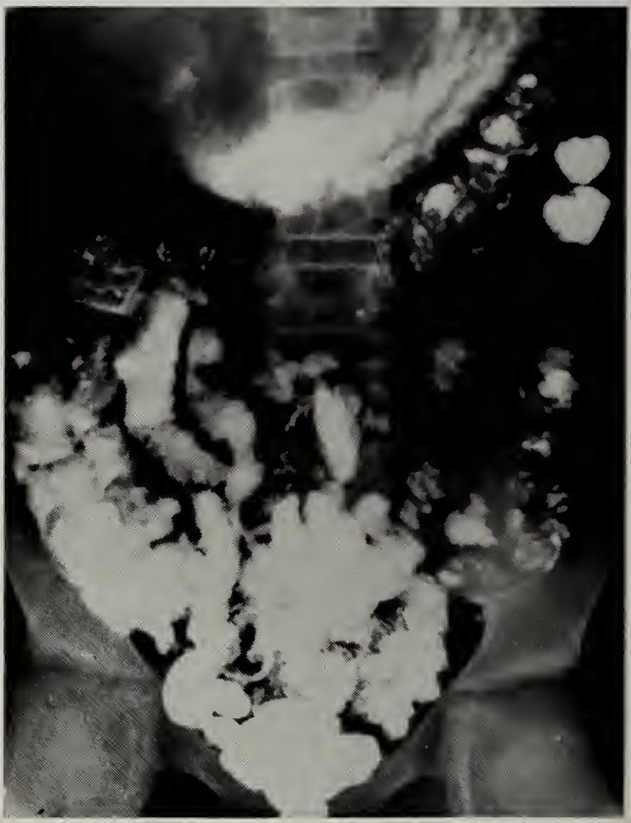

Fig. 2 90-minute interval film. Barium has reached colon and there is no evidence of obstruction.

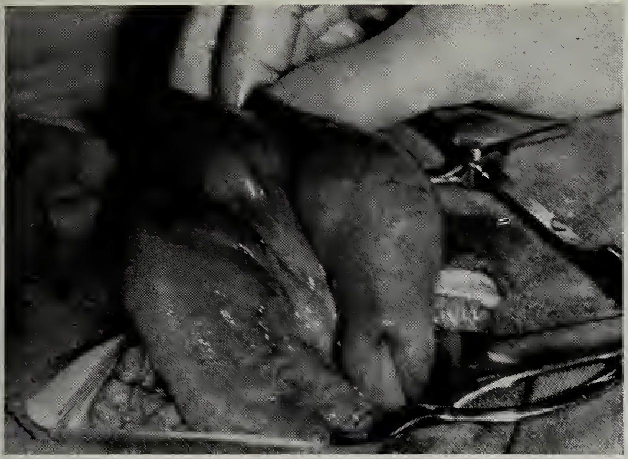

Fig. 3 Surgical field showing point of invagination and dilatation of the intussuscipiens and edema distal to this point.

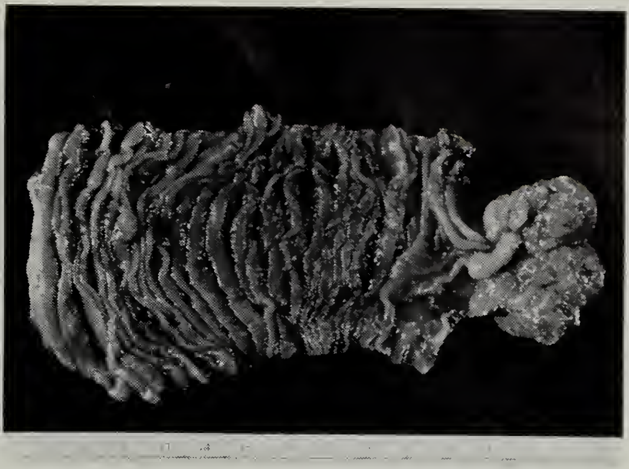

Fig. 4 Surgical specimen of proximal jejunum showing both adenomatous polyps, the smaller one lying 8 cm. left of the larger one.

duration of symptoms. Perrin and Lindsay[4] classified intussusceptions as ileocecal, ileocolic and enteric. Enteric are further subdivided as ileal, jejunoileal and jejunal. The types of intussusception, based on severity and duration of symptoms, are: acute, less than one week; subacute, one to two weeks; chronic, longer than two weeks.[2] Teitelbaum and Arenson[5] reported four cases of recurrent intussusception all of which were enteric. The affected segments were usually jejunal. No mass could be palpated and there was no close relationship between the symptoms and the development or disappearance of intussusception. Bleeding from the bowel, frank or occult, was never observed.

The incidence of enteric intussusception is rare. Wansbrough and Cram[6] reported a statistical study based on 575 cases of intussusception. The incidence of different types of intussusception was given as follows: 67% ileocecal, 17.8% ileocolic, 6.9% ileal, 1.6% colic and 4.7% compound. Freilich and Coe[7] reviewed 3,284 cases. of intussusception and found entero-enteric intussusception in only 14%. Jejunojejunal intussusception accounted for only 0.9%. Only 29 cases of pure jejunal intussusception were found in the literature by Freilich and Coe from 1852 to 1936. Since 1936 only scattered cases of pure jejunal intussusception have appeared in the literature.

There are distinctive differences in cases of enteric intussusception as opposed to ileocecal and ileocolic. Enteric forms of intussusception most frequently occur in adults and are chronic in nature. Enteric intussusception seldom occurs in children. However, when it does occur it almost always affects children under the age of two. Healthy appearing males are affected most frequently and the symptoms are usually acute or subacute. The majority of cases will present with the cardinal signs of pain, vomiting, a palpable abdominal mass and blood in the stools. A definite causative lesion is present in only 5% of cases. The most frequent causes are Meckel's diverticulum and polyps.[9]

It is quite interesting that in our case no abdominal mass could be palpated or demonstrated fluroscopically even though the tumor was of moderate size. Tumors of the small intestine, as a rule, do not show themselves clinically until they bleed or cause obstruction. Obstruction usually is produced by intussusception.[10]

The roentgen diagnosis of tumors of the small intestine is difficult to make because of many inherent factors in the procedure. Small defects are almost impossible to recognize when obscured by barium and, unless pressed out, they will be missed. Only random segments of bowel are seen on an interval film and some areas are totally missed in the time interval between films. There is also the possibility that a loop of intestine containing a tumor may be hidden behind another barium filled segment of intestine. Delivery of barium from the stomach to the small intestine is quite erratic from patient to patient, compounding the problem of an adequate study.

Polypoid tumors of the small intestine are notorious for causing intussusception. The symptoms are usually chronic and of a remittent nature, causing only partial obstruction. Acute episodes with obstruction tend to occur when the invaginated portion, the intussusceptum, traverses the receiving layer of bowel, the intussuscipiens, to a point where the mesentery becomes constricted. Vascular changes and edema ensue, causing further constriction of the lumen and complete obstruction.

In our case there was no apparent element of obstruction. The stalk of the polyp had its origin proximal to the ligament of Treitz. It is postulated that the ligament of Treitz acted as a check point, preventing the intussuscipiens from invaginating to a point of complete obstruction.

The chief roentgenological characteristics of intussusception have been well documented in the literature by Good and others and will not be reviewed in this discussion. However, it is important to recognize that conditions other than intussusception can simulate the typical "coiled spring" effect.

Intramural intestinal hemorrhage due to trauma has been widely published in recent years. Specific trauma is the most frequent cause; however, spontaneous intramural hemorrhage can also occur with the bleeding diathesis and anticoagulant therapy.[11] The roentgen criteria were first described by Felson and Levine as thickening and spreading of the valvulae conniventes and an intramural mass simulating a coiled spring appearance.[12] Khilnani, et al, reported a case of intramural hemorrhage in the distal jejunum due to anticoagulant therapy. Proximal to the area of hemorrhage a transient intussusception was noted. Some degree of narrowing of the lumen of the bowel is almost always present, however elements of obstruction are infrequent. The differential diagnosis is not difficult since reabsorption and return to a normal bowel pattern occurs when the bleeding stops.

SUMMARY

A case of jejunal intussusception is reported which first manifested itself clinically as a chronic anemia.

Entero-enteric intussusceptions represent a small but interesting group of intussusceptions. Enteric forms usually occur in adults and the symptoms are frequently of a bizarre and chronic nature. The symptoms may be so vague that the diagnosis is not suspected until the patient presents with occult or frank blood in the stools. Obstruction with acute symptoms usually occurs late when the intussusception proceeds to a point where there is compromise in the vascular supply. This form of intussusception should always be considered in the face of anemia and/or rectal bleeding even though there are no clinical symptoms of an acute abdomen.

Acknowledgement: Joseph Kanarek, M.D. and Joseph Borenstine, M.D. supplied data on our patient's past history from their office records.

BIBLIOGRAPHY

1. Miller, F. A.: Intussusception in Children. Postgrad. Med. 33(No. 2):128-132, February 1963.
2. Gibson, R. H. and Dockerty, M. B.: Intussusception in Infants and Children. Surg. Clinics of North America, pp. 1141-1151, 1949.
3. Ward, P. R.: Jejunal Intussusception—A Report on Two Cases. The British Journal of Radiology 33:691-694, November 1960.
4. Perrin, W. S. and Lindsay, E. C.: Intussusception Monograph Based on 400 Cases. Brit. Journal of Surgery 9:46, 1921.
5. Teitelbaum, M. D. and Arenson, N.: Recurrent Small Intestinal Intussusception in Children. Am. J. of Roentgenology and Radium Therapy 63(No. 1):80-88.
6. Wansbrough, R. M. and Cram, R. W.: Intussusception. Canad. M. A. F. 67:307-310, October 1952.
7. Freilich, E. B. and Coe, G. C.: Jejunal Intussusception. Ann. Surg. 105:183-191, February 1937.
8. Good, C. A.: Entero-Enteric Intussusception. Radiology 42:-122-127, February 1944.
9. Singleton, E. B.: Hydrostatic Reduction of Intussusception. Ped. Clinics of North America 10:175-186, February 1963.
10. Shanks, S. C. and Kerley, P.: A Textbook of X-ray Diagnosis—Abdomen, 3rd Edition. W. B. Saunders Co., p. 327, 1958.
11. Felson, B. and Levine, E. J.: Intramural Hematoma of the Duodenum. Radiology 63:823-829, December 1954.
12. Khilnani, M. T., Marshak, R. H., Eliasoph, J. and Wolf, B. S.: Intramural Intestinal Hemorrhage. Am. J. of Roentgenology, Radium Therapy and Nuclear Medicine 92:1061-1071, November 1964.

New Drugs—1966, an AMA-published book, answers the specific questions a physician asks with regard to a specific drug and its uses. Each answer represents the consensus of a battery of expert consultants plus the 13 members of the Council on Drugs. This is the second edition of a book which was first issued last year. *New Drugs—1965* replaced an older AMA annual publication, *New and Nonofficial Drugs.* Although "NND" filled a need in furnishing appraisal of new drugs, the Council members felt that because of its pharmacological approach it had become less useful to the physician than to the academician. The new book may be ordered through AMA offices in Chicago at a price of $4.00, or $3.00 if the buyer is a house officer or medical student.

RICHARD M. HYDE, Ph.D. *and*
DONALD P. DURAND, Ph.D., *Columbia*

Intraphagocytic Fate of Virus

A discussion of some of the aspects of phagocytosis as it relates to host resistance, and speculation on the role of phagocytosis in viral infection. Doctor Hyde is an Assistant Professor of Microbiology at the University of Oklahoma School of Medicine. At the time this paper was prepared he held a comparable post at the University of Missouri. Doctor Durand is an Associate Professor of Microbiology at the University of Missouri School of Medicine.

It is obvious that to survive in his environment man must have an efficient means of ridding the body of noxious agents. In infectious disease this ability is usually acquired through some intimate contact with the agent or an antigenically similar material. The possible mechanisms for this elimination of foreign material are: (a) excretion *in toto* or (b) excretion after detoxification and digestion. As for (a) there is very little evidence of excretion of infectious agents through the intact intestinal or kidney barriers. Also, from known facts about the physiology of these organs, it seems improbable that this explanation would be found operational with such complex materials as infectious agents. There have been reports of large molecular weight materials, e.g., bacterial viruses,[1] being excreted intact in the urine; however, the amount being eliminated through the kidneys was exceedingly low. Therefore, the alternative, detoxification followed by digestion (either partial or complete), seems the more tenable. The first step in this process, detoxification (or neutralization), is a function of humoral antibody together with less specific soluble tissue products. It is the process of degradation that is unresolved.

The attack on this problem has begun, and particularly in the case of bacterial and mycotic infections information is being obtained relative to the sequence of events involved in intraphagocytic digestion. Characterization of the rat liver cell lysosomes[2] and extension of these observations to polymorphonuclear leucocytes[3] has aided our understanding of the mechanisms by which intracellular breakdown occurs. The hydrolytic enzymes contained in the lysosome-like granules of most phagocytic cells are thought to be primarily responsible for degradation. In this regard enzymes that are capable of splitting a wide variety of macromolecules are known to be present in the cytoplasm of the phagocytic cell, e.g., acid and alkaline phosphomonoesterases, ribonuclease, deoxyribonuclease, lysozyme, glucuronidase, cathepsin, peroxidase and lipase.

The degradation of bacteria which occurs within rabbit phagocytes involves a rapid conversion of bacterial lipid, nucleic acid and protein into acid-soluble products, the majority of which are excreted by the leucocytes and appear in the medium.[4] There is a great deal of controversy revolving around the possibility that phagocytic cells may acquire heightened abilities for engulfment and/or digestion of such agents. Acquired "cellular" immunity has been demonstrated as a protective mechanism in bacterial diseases which have an intracellular stage such as in brucellosis. However, the specificity of the phagocytic digestive activity has been questioned. For example, it has been shown that cells from an animal immune to tuberculosis will have enhanced reactivity with both *Mycobacterium tuberculosis* and *Brucella melitensis*.[5]

The importance of phagocytic cells in recovery from viral disease is probably equal to, if not greater than, that seen in bacterial infections. Although circulating antibody certainly plays a role in immunity to viral infections, several recent findings suggest that recovery and resultant resistance to re-infection may not completely depend upon the presence of antibody. The nonspecific antiviral product of infected cells, interferon, may be intimately involved in recovery from viral infections. However, it is difficult to ascribe to this material the long lasting immunity to re-infection that is a characteristic consequence of the initial encounter with this type of infectious agent.

The observed normal pattern of virus disease with its resultant solid immunity in hypogammaglobulinemic patients is suggestive of a cellular immune mechanism. The report of Freidman and Baron[6] rather convincingly demonstrated the recovery of guinea pigs from vaccinia infection without the participation of detectable circulating antibodies. However, there are observations of virus replication within leucocytes and transport of viable virus through the body by white blood cells. This would suggest that phagocytic cells are not aiding in the host's resistance but are actually acting to support the virus and assist in its spread through the body. These discrepancies are possibly due to differences in: (1) host response to various viral agents; (2) the pathogenesis of the agents involved; or (3) the immune state of the phagocytic-cell donor. A comparison of the rate of elimination of PR-8 influenza virus in the peritoneal cavity of normal and immune mice demonstrated a marked difference in this ability between the two groups.[7] The virus was eliminated rapidly in immune mice but was found to persist for many hours in the normal animal's peritoneum. In contrast, another myxovirus has been shown to multiply in chicken macrophages cultivated in tissue culture.[8] This difference in virus fate may be the result of variations in the conditions of the test, e.g., cells *in vivo* vs. cells *in vitro* (with the resultant elimination in the *in vitro* system of some components necessary for virus degradation). It may also reflect the change that occurs in phagocytic cells following an infection. This change may be a non-specific enhancement of cytopeptic activity or a more specific but as yet conjectural selection of, or adaptation to, an "immune" cell.

The fundamental problem pertaining to the role of phagocytic cells in virus infections cannot be answered at this time (for excellent review, cf. Kantoch[9] and Mims[10]). An early resolution of this question would be highly desirable, as the answer may have a direct bearing on the rationale employed in the search for and development of anti-viral therapeutic measures. If the phagocytic cell plays a major role in virus degradation, it is obvious that therapeutic agents which have an inhibitory effect upon phagocytosis or intracellular degradation would be contra-indicated. It might also be possible to arrive at disease prognoses by determining phagocytic capacities of the infected individual with such tests as clearance of intravenously administered carbon particles.

It is hoped that this brief discussion of the role of phagocytic cells in infectious diseases will increase in the reader his awareness of the mechanisms involved in recovery from such disease. The application of the information contained herein to the practice of medicine is not obvious, but the value of awareness of trends and advances in our understanding of the mechanisms of host resistance and recovery from disease is self-evident.

BIBLIOGRAPHY

1. Keller, R., and Zatzman, M. L.: Studies on the Factors Concerned in the Disappearance of Bacteriophage Particles From the Animal Body. J. Immunol. 83:167-172, 1959.
2. DeDuve, C.: Lysosomes, a New Group of Cytoplasmic Particles, in Subcellular Particles. (T. Hayashi, editor), New York, Ronald Press Co., 1959, 128.
3. Cohn, Z. A., and Hirsch, J. G.: The Isolation and Properties of the Specific Cytoplasmic Granules of Rabbit Polymorphonuclear Leucocytes. J. Exp. Med. 112:983, 1960.
4. Cohn, Z. A.: The Fate of Bacteria Within Phagocytic Cells. The Degradation of Isotopically Labelled Bacteria by Polymorphonuclear Leucocytes and Macrophages. J. Exp. Med. 117:27, 1963.
5. Elberg, S. S.: Cellular Immunity: Bacteriological Review, Vol. 24, No. 1, March, 1960.
6. Friedman, R. M., and Baron, S.: The Role of Antibody in Recovery from Infection With Vaccinia Virus. J. Immunol. 87: 397, 1961.
7. Hanson, R. J., Kempf, J. E., and Boand, A. V., Jr.: Phagocytosis of Influenza Virus II, Its Occurrence in Normal and Immune Mice. J. Immunol. 79:442, 1957.
8. Bang, F. B., and Warwick, A.: The Effect of an Avirulent and a Virulent Strain of Newcastle Virus *(Myxovirus multiforme)* on Cells in Tissue Culture. J. Path. Bact. 73:321, 1959.
9. Kantoch, M.: The Role of Phagocytes in Virus Infections. Arch. Immunol. Terapii Dosw. 9:261, 1961.
10. Mims, C. A.: Aspects of the Pathogenesis of Virus Disease. Bact. Reviews 28:30, 1964.

Applications are now being received for Wyeth Pediatric Residency Fellowships that will begin on July 1, 1967. Sponsored by the Wyeth Fund for Postgraduate Medical Education, each of these fellowships provides $4,800 over two years toward the advanced study required for Board Certification. Wyeth's monthly payments, made directly to recipients, are in addition to the usual stipends paid to residents by the institutions in which they train. Eligible to apply are interns, physicians who have recently completed an internship, research Fellows, or physicians leaving the armed services or U. S. Public Health Service. Requests for application forms and inquiries about the program should be directed to the committee chairman, Philip S. Barba, M.D., 120 Erdenheim Road, Philadelphia, Pa. 19118. All applications must be received by December 1, 1966.

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The Significance of Late Systolic Murmurs

Case Reports

LATE SYSTOLIC MURMURS have been recognized for a long time but their mode of origin and significance continue to be a controversial point. A late systolic murmur is defined as that which on auscultation registers vibrations only in mid and late systole and none in early systole on phonocardiography. Some believe that late systolic murmurs are extracardiac in origin and innocent.[1–7] In recent years it has been shown that cases of late systolic murmurs represent true mitral regurgitation.[3, 8–10]

In order to determine the clinical and hemodynamic significance of late systolic murmurs and their possible relation to organic mitral valvular disease, two cases of late systolic murmurs at the St. Louis University Hospital were reviewed. These patients underwent complete evaluation including cardiac catheterization, angiocardiography and electrocardiography.

CASE REPORTS

Case # 1: A 52-year-old white female was first seen in 1951 in the cardiology clinic of the St. Louis University Hospital. Her symptoms at that time were mild exertional dyspnea and occasional mild pedal edema. She was digitalized and was placed on a low sodium diet and intermittent diuretics. A re-evaluation was done in 1964 and the digitalis was discontinued. She had a history of repeated sore throats with pain in the bottom of her feet during her childhood. No definite history of rheumatic fever could be elicited. A heart murmur was detected at 10 years of age. She underwent subtotal thyroidectomy for toxic goiter at 22 years of age. The family history was unremarkable.

Physical examination revealed a well developed and well nourished female in no acute distress with a blood pressure of 110/70, regular pulse at 80 per minute, respirations 20 per minute and a temperature of 98 F. Examination of the heart, mouth, tonsils, pharynx, extremities and lungs was negative. The point of maximum impulse was felt in the fifth left intercostal space at the midclavicular line. On auscultation the heart sounds were normal. There was a high pitched, grade 3/6 apical murmur heard in late systole with minimal radiation to the axilla. No diastolic murmurs were present. The liver and spleen were not palpable.

The laboratory data showed a normal complete blood count and urinalysis. The electrocardiogram (Fig. 1) and chest X-ray were within normal limits. The phonocardiogram showed a late systolic murmur starting with a systolic click (Fig. 2). A retrograde catheterization was done using the Seldinger technique. The left ventricular pressure was 125/0-8 mm Hg and the aortic pressure was 125/68 mm Hg. Cineangiograms showed mild mitral regurgitation occurring in late systole. The aorta was normal in position and appearance.

Case # 2: A 14-year-old white female was seen at the Cardinal Glennon Children's Hospital in February 1964 for evaluation of a heart murmur which was detected during an episode of sore throat two months previously. At this time she complained of nonspecific chest and leg pains. The physical findings were a normal precordium with no displacement of the PMI, a regular rhythm, normal heart sounds and a scratchy grade 2/6 mid and late systolic murmur heard throughout the precordium. The electrocardiograms showed nonspecific T wave and ST changes (Fig. 3). The chest X-ray was within normal limits. A diagnosis of probable pericarditis was made. Three months later she complained of occasional nonspecific chest pains. The physical findings, chest X-ray and electrocardiograms were unchanged. She was next seen in September 1964 at which time

Late systolic murmurs are not always innocent. Therefore, careful evaluation of such cases should be made to determine whether organic mitral regurgitation is involved. The authors present two cases in which angiocardiography clearly demonstrated the presence of mitral regurgitation in late systole. A thorough review of pertinent literature is included. The authors are from the Section of Cardiology, Department of Internal Medicine, St. Louis University School of Medicine. Doctor Hiremath is a Research Fellow of the Missouri and St. Louis Heart Associations; Doctor Thurmann is an Instructor in Internal Medicine.

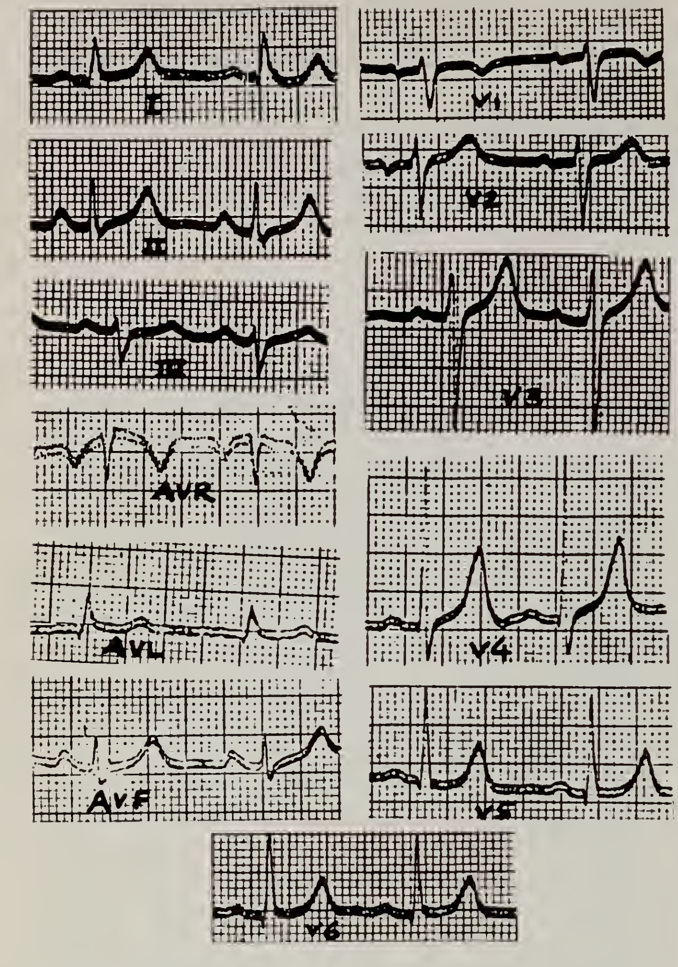

Fig. 1 Electrocardiogram from Case # 1 which is within normal limits.

the physical findings revealed a well developed and well nourished female, with a normal precordium, regular rhythm, normal heart sounds and a grade 3/6 systolic murmur best heart in late systole which became prominent in the erect position. The X-ray of the chest was normal and the electrocardiogram was unchanged. In March 1965 all the findings were unchanged. The phonocardiogram (Fig. 4) showed a murmur in late systole in the supine and left lateral positions becoming pansystolic in the erect position. A retrograde cardiac catheterization was done with the Seldinger technique. The pressures in the left ventricle and the aorta were normal. The cineangiograms showed a moderate regurgitant flow on the posterior aspect of the posterior mitral leaflet in mid and late systole. A left heart catheterization using the Radner technique showed the following left atrial pressures: AC:13 mm Hg, V:20 mm Hg, X:4 mm Hg, and Y: 7 mm Hg. These pressures were considered to be mildly elevated with no evidence of mitral regurgitation by wave pattern. Because of the cineangiographic findings it was concluded that the patient had mitral insufficiency probably due to rheumatic heart disease.

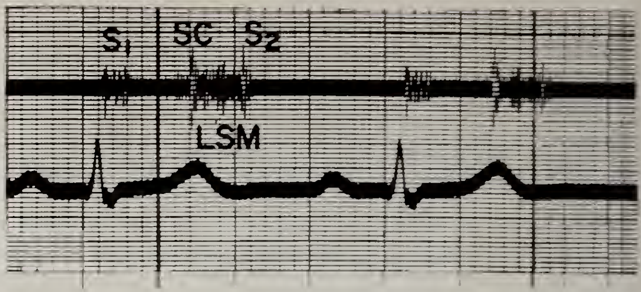

Fig. 2 Phonocardiogram from Case # 1 showing late systolic murmur (LSM) starting with the midsystolic click (SC).

DISCUSSION

The two cases we have presented indicate that the cause of the late systolic murmur was a mitral insufficiency. Others whose findings agree with ours are Harvey *et al.*,[8] Barlow and Pocock,[9] Segal and Likoff,[10] Humphries and McKusick[11] and Segal *et al.*[12] Ronan *et al.*[8] report a case with a late systolic murmur with mid-systolic clicks which they studied by cardiac catheterization and intracardiac phonocardiography before and after the administration of vaso-active drugs (aramine and amylnitrite). The results convincingly showed that late systolic murmurs and systolic clicks originated at the mitral orifice. These authors also state that some patients with late apical systolic murmurs had definite evidence of rheumatic heart disease at autopsy. The clinical association of late systolic murmurs with pericardial disease was not observed in their other cases discussed by them. Segal and Likoff[10] report eight cases with late systolic murmurs with mitral regurgitation in late systole on intracardiac phonocardiography and left ventricular angiocardiography.

Barlow and Pocock[9] report five cases with late systolic murmurs in whom cineangiocardiograms revealed mitral regurgitation in late systole. They also showed that late systolic murmurs acted like mitral regurgitant murmurs to the action of amylnitrite, the Valsalva maneuver and phenylephrine. They mention two patients in whom the systolic murmurs changed spontaneously after a period of months. In one the late systolic murmur originally followed a click and later developed vibrations in early systole. In the second the early vibrations of a pansystolic murmur with late accentuation completely disappeared. However they do not provide angiocardiographic evidence. They report that of eight cases with late systolic murmurs, seven had mid-late systolic clicks. Although angiocardiographic data was not obtained the alterations of the mur-

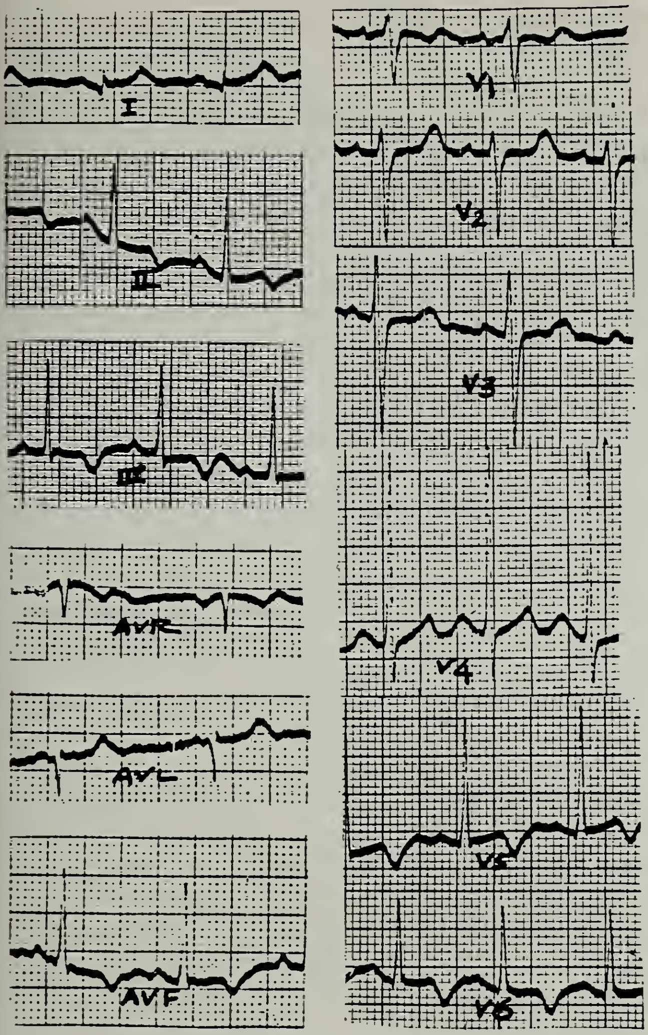

Fig. 3. Electrocardiogram from Case # 2 showing inverted T waves in Leads II, III, AVF, V_5 and V_6.

mur after the administration of amylnitrite, phenylephrine and the Valsalva maneuver were compatible with those of mitral regurgitant murmurs.

It has been observed[9] that typical pansystolic murmurs of true mitral regurgitation have late systolic accentuation suggesting an increase in the amount of regurgitant flow even though during late systole the ventriculo-atrial gradient is lower than in early systole. Since it is unlikely that the ventriculo-atrial gradient is the cause of increased regurgitant flow it is possible that some anatomical deformity of the mitral valve occurs in late systole. In view of this, it is conceivable that late systolic murmurs are produced by a mitral valve deformity which occurs only in late systole. The cineangiocardiograms in our patients demonstrate this point; however, the change which occurred in the murmur with change in position in one of our patients remains unexplained.

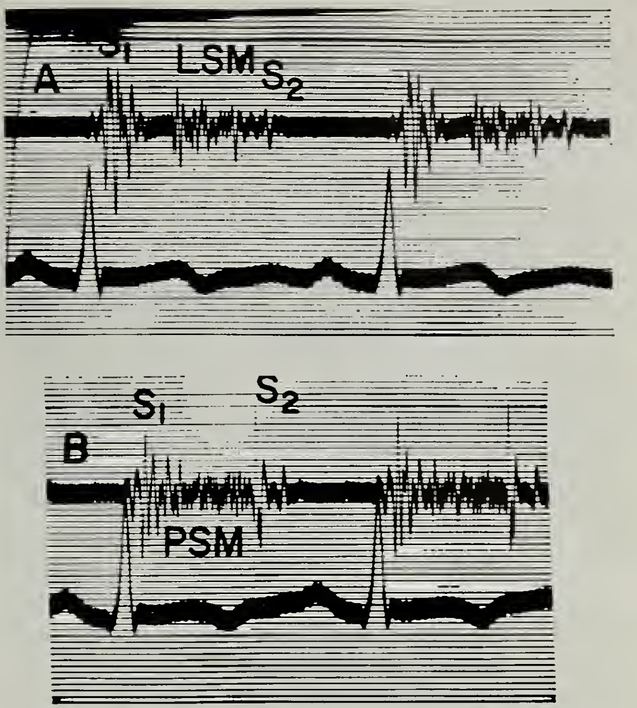

Fig. 4 Phonocardiogram from Case # 2. "A" shows the late systolic murmur (LSM) in supine position. "B" shows the murmur becoming pansystolic (PSM) in sitting position.

Burch, DePasquale *et al.*[13] have described the papillary muscle dysfunction in which they found systolic murmurs starting in mid and late systole. They give the following explanation: The closure of the mitral valve takes place in three stages. In the first stage at the end of atrial contraction, the mitral leaflets float upward due to the eddy currents created underneath them. In the second stage there is a reduction in the size of the mitral valve and an increase in intraventricular pressure during isometric contraction. The increase in papillary muscle tension at this time prevents the eversion of mitral leaflets into the atrium. In the third stage and due to further contraction of the musculature with increased intraventricular pressure, ejection occurs with simultaneous bulging of the mitral leaflets into the atrium. The contraction and shortening of the papillary muscles at this time prevent the eversion of the mitral leaflets. If the papillary muscle is infarcted it will not contract and shorten resulting in the eversion of the mitral leaflets into the atrium with the attendant mitral regurgitation in mid and late systole. Segal and Likoff report 20 cases developing late systolic murmurs after acute anterior myocardial infarction without angiocardiographic data.

Segal *et al.*[14] have reported a late systolic crescendo murmur in a case of Marfan's syndrome whose angiocardiographic studies showed mitral regurgitation. It was thought that the redundant chordae tendinae allowed eversion of the mitral leaflets in midsystole during the rise in intraventricular pressure.

Other conditions which produce late systolic murmurs are coarctation of the aorta[15] and subaortic stenosis.[16-19]

It has been shown in dogs[20, 21] and in man[22] that regurgitation through normal mitral valves may occur in bradycardia, during the compensatory pause after an extrasystole or after a period of asystole. Such disturbances in rhythm are not uncommon during the injection of radio-opaque material into the left ventricle. However, unlike true mitral insufficiency in which opacification of the left atrium becomes progressively intense with each ventricular systole,[23] the contrast material which regurgitates during prolonged diastole disappears from the left atrium as soon as the normal rhythm is resumed.

Leatham,[1, 3] McKusick,[2] Levine and Harvey[2, 4] believed that late systolic murmurs were of extracardiac origin and hence benign. Humphries and McKusick[11] reported 11 patients with late systolic murmurs and electrocardiographic abnormalities consisting of low diphasic or inverted T waves and tall R waves in Leads II and III. Tall peaked T waves were also seen in the midprecordial leads. Two of these patients had normal hemodynamic and saturation studies in all four chambers of the heart and both great vessels. Two others had normal right heart catheterizations. Many of these patients had a past history of "grippe like" illness. They were asymptomatic, and during a six-year follow-up period did not show clinical or electrocardiographic changes. They suggest that these murmurs are of pericardial origin and hence innocent. However, angiocardiographic studies were not reported in these patients. In their discussion they mention a patient who had been in an automobile accident, with a late systolic murmur who had angiographic evidence of mitral insufficiency in late systole. Our second patient also had a history of vague illness and chest pain but had greater electrocardiographic abnormalities without symptoms of cardiovascular disease. She was followed for 18 months during which time the electrocardiographic changes persisted and heart size remained normal. She then had hemodynamic and cineangiocardiographic studies which showed mitral regurgitation in late systole.

Late systolic murmurs have been thought to have an extracardiac origin[2, 3, 5-7] because of their frequent association with mid and late systolic clicks which were thought to be of extracardiac origin[4, 5, 7, 25] although convincing data have not been presented. Reid[26] discussed the origin and significance of systolic clicks postulating that abnormal chordae tendinae gave rise to clicks which may or may not have been associated with mitral regurgitation. Barlow and Pocock[9] found that ten of their patients with angiocardiographic evidence of mitral regurgitation in late systole also had systolic clicks. They also mention mid-systolic clicks developing after mitral valvulotomy but not following surgery on congenital cardiac lesions suggesting an intracardiac rather than extracardiac origin of the clicks. Ronan's[8] case with a late systolic click and murmur had definite mitral regurgitation suggesting their intracardiac origin. With the knowledge presently available it has not been possible to completely rule out the pleuro-pericardial origin of systolic clicks and therefore the meaning of their association with late systolic murmurs is unknown.

Leatham[27] stated that late systolic murmurs without vibrations in early systole should be regarded as innocent since they do not fit the presently available hemodynamic criteria. McKusick[5] observed that late systolic murmurs often envelope and extend beyond the aortic second sound, and he believed that this together with the often associated mid-systolic clicks suggested a pericardial origin for both. However, two patients with definite mitral regurgitation in Segal and Likoff's series[10] also had late systolic murmurs enveloping the aortic second sound.

In conclusion we believe that patients with late systolic murmurs should be evaluated by cineangiocardiography in order to definitely exclude the presence of mitral regurgitation.

BIBLIOGRAPHY

1. Leatham, A.: Auscultation of the Heart. Lancet 2:703, 757, 1958.
2. McKusick, V. A.: Cardiovascular Sound in Health and Disease. Baltimore, Williams and Wilkins, p. 181, 1958.
3. Leatham, A.: Systolic Murmurs. Circulation 17:601, 1958.
4. Reid, J. A. and Humphries, J. O.: Systolic Clicks and Study of Their Clinical Significance. Bull. Johns Hopkins Hospital 97:177, 1955.
5. Leatham, A.: Symposium on Cardiovascular Sound. Circulation 16:414, 1955.
6. Vogelpoel, L., Nellen, M., Swanepoel, A. and Shirre, V.: Use of Amylnitrite in the Diagnosis of Systolic Murmurs. Prog. Cardiovas. Dis. 20:810, 1959.
7. McKusick *et al.*: On Cardiovascular Sound. Circulation 11:849, 1955.
8. Ronan, J. A., Perloff, J. K. and Harvey, P.: Late Systolic Clicks and Late Systolic Murmurs. Am. Heart J., Sept. 30, 1965.
9. Barlow, J. B. and Pocock, W. A.: Significance of Late Systolic Murmurs. Am. Heart J. 66:443, 1963.
10. Segal, B. L. and Likoff, W.: Late Systolic Murmur of Mitral Regurgitation. Am. Heart J. 67:757, 1964.
11. Humphries, J. O. and McKusick, V. A.: The differentiation of organic and innocent systolic murmurs. Prog. Cardiovasc. Dis. 5:152, 1962.
12. Segal, B. L., Mason, D. and Kasparian, H.: Late systolic murmurs abstract. Circulation 24:1033, 1961.

(Continued on page 654)

Experience With Surgical Management of Breast Lesions in Private Practice

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The surgeon in private practice often is in a better position than his medical center counterpart to evaluate the true incidence of a disease process, because his patients are not as selected as they are in the large center. The experience presented in this paper was gained in an office association with two gynecologists seeing a large number of women with breast problems. It is estimated that the present experience has been gained from about 4,000 breast examinations per year.

In a comparable series Kaier[1] reported an incidence of 6.5% carcinoma in 354 patients with fibroadenosis of the breasts. Sparkman[2] reported carcinoma in 92 patients in a series of 552 patients with breast lesions for an incidence of 16%. Ochsner[3] estimated that from 30 to 80% of all women have cystic disease at sometime in their lives. The relationship of fibroadenosis to carcinoma is not clearly established.[4] In this series no definite relationship could be established.

Material

The material in this series represents 226 consecutive breast lesions treated surgically from July 1958 through October 1964. In every case the decision for surgical removal was based on the (1) presence of a discrete nodule within the breast and (2) continued presence of a lesion after one or more menstrual periods.

All the patients were admitted within one week after decision for operation was made.

The pathological diagnosis in our 226 cases showed:

Cystic disease	130
Fibroadenoma	33
Lipoma	8
Lymph node	10
Abscess	12
Intraductal papilloma	6
Fat necrosis	1
Adenocarcinoma	24
Carcinoma in situ	2

In all patients with an intraductal papilloma, bleeding from the nipple was the presenting complaint. There were no patients with carcinoma with this complaint.

Excisional biopsy of the entire lesion was done in each surgical removal with confirmation by frozen section when indicated. In many cases a circumareolar incision was utilized for easy access to the lesion and for good cosmetic results.

Twenty patients in the group have returned for two or more biopsies. One patient has had seven biopsies for cystic disease. The average age of 192 patients with benign disease was 39 years. The lesions had been present for from four days to three months.

Mammography was used only occasionally in this group of patients. We are following the criteria outlined in a recent letter from the Committee on Cancer of the American College of Surgeons.[5]

Carcinoma Group

Twenty-four patients had adenocarcinoma, 10.6% of the entire group. The average age for this group was 46 years. The lesions had been known to the patient from about seven days to as long as four months. Two additional patients were found to have carcinoma in situ and simple mastectomy was done. Two patients with carcinoma had simple mastectomy because of advanced age. One patient in the series died of

A report of experience and findings in a series of 226 consecutive breast lesions, all of which were treated surgically. Two or more benign lesions were found in 20 patients; carcinoma was found in 24. Doctors McGannon and Leo are in the private practice of General Surgery; Doctors Sinclair and Kiser are in the private practice of Obstetrics and Gynecology. All are on the attending staffs at St. Joseph and St. Mary's Hospitals.

recurrence in November 1964 with pulmonary metastasis at the age of 78, three years following simple mastectomy. The others are all living and well from one to more than six years after radical mastectomy with 100% follow-up.

A transverse incision was used in every case. We feel that in addition to better exposure of the axilla, there is better healing of a transverse wound paralleling the skin lines. The Halstead procedure is followed with wide excision of the breast, pectoralis major and minor muscles and careful dissection of the axillary sheath to remove all lymph node bearing tissue. A technical point we have found helpful is to develop the superior flap first, complete the axillary dissection and then make the inferior flap after the major portion of the dissection is completed. This reduces the amount of blood loss since the perforating vessels have to be ligated only once.

The hemovac has been found of inestimable value in establishing early approximation of the flaps to the chest wall. The hemovac is a plastic apparatus, available commercially, utilized to evacuate serum from the subcutaneous space. A vacuum principle is applied. There have been no complications due to fluid accumulation. There was no mortality in this series.

The decision regarding additional therapy for the patient with carcinoma of the breast is made after the pathological report is available. Our treatment program following radical mastectomy followed this pattern:

1. Patients without axillary metastasis—no further immediate therapy.
2. Patients with axillary metastasis who are post-menopausal—post-operative radiation.
3. Patients with axillary metastasis who are pre-menopausal—post-operative radiation and surgical oophorectomy ten days after mastectomy.

Radiation has proved effective in our experience thus far in confining the tumor to the area of the radical mastectomy. We prefer to withhold radiation from those patients without axillary metastasis for the day when they might need additional help. Surgical castration rather than castration by radiation is superior, because in the latter one is not quite sure that all ovarian function has ceased.

Surgical castration has been reserved for those pre-menopausal women with axillary metastasis. We have felt if it is to be of benefit at all, it will do more in the active years of menstruation rather than in the declining years of ovarian function.

Summary

1. Experience with the surgical management of 226 consecutive breast lesions in private practice has been presented.

2. Twenty patients in the series had two or more benign lesions removed.

3. Carcinoma was found in 24 patients for an incidence of 10.6%.

4. One patient died of metastasis in the series, three years after simple mastectomy.

5. Early detection followed by operation and adequate removal continues to be the treatment of choice for carcinoma of the breast.

Bibliography

1. Kaier, W.: Relation of Fibroadenosis to Carcinoma of Breast. Copenhagen, Munksgaard, 1954.

2. Sparkman, R. S.: Reliability of Frozen Sections in the Diagnosis of Breast Lesions. Annuals of Surgery 155:6:924, 1962.

3. Ochsner, Alton: Cystic Disease of the Breast. Postgraduate Medicine 33:133-8, February 1963.

4. Humphrey, L. J. and Swerdlow, Martin: Relationship of Benign Breast Disease to Carcinoma of Breast. Surgery 52:839-40, November 1962.

5. Copeland, M. M.: Subject Mammography, American College of Surgeons, Committee on Cancer Communication, March 30, 1965.

Late Systolic Murmurs (Cont'd)

13. Burch, G. E., DePasquale, M. P. and Phillips, L. H.: Clinical Manifestations of Papillary Muscle Dysfunction. Arch. Int. Med. 112:192, 1963.

14. Segal, B., Kasparian, H. and Likoff, W.: Mitral Regurgitation in a Patient With Marfan Syndrome. Dis. Shest 41:457, 1962.

15. Wells, B. G., Rappaport, M. B. and Sprague, H. B.: The Sounds and Murmurs of Coarctation of Aorta. Am. Heart J. 38:69, 1949.

16. Bercu, R. A., Diettert, G. A., Danforth, W. J., Pund, E. E., Jr., Alvin, R. C. and Bellireau, R. R.: Pseudo Aortic Stenosis Produced by Ventricular Hyperthrophy. Am. J. Med. 25:814, 1958.

17. Brock, R.: Functional Obstruction of the Left Ventricle. Guy's Hosp. Rep. 108:126, 1959.

18. Calvin, J. L., Perloff, J. K., Conrad, P. W. and Hufnagel, C. A.: Idiopathic Hypertrophic Subaortic Stenosis. Am. Heart J. 63:477, 1962.

19. Braunwald, E., Morrow, A. G., Cornell, W. P., Aygen, M. M. and Hilbish, T. F.: Idiopathic Hypertrophic Subaortic Stenosis. Am. J. Med. 29:924, 1960.

20. Carter, B. L., Southard, B. L. and Chungcharoe, N. D.: Normal Mitral Valve. Cinefluorographic Demonstration. Proc. Soc. Exp. Biol. and Med. 104:613, 1960.

21. Paul, R. E., Oppenheimer, M. J., Lynch, P. R. and Stauffer, H. M.: Regurgitation of Radio-opaque Material Through Normal Mitral Valves in Angiocardiographic Studies in Dogs. Jr. Appl. Physiol. 12:98, 1958.

22. Bjork, V. O., Lodin, H. S. and Malers, E.: The Evaluation of Degree of Mitral Insufficiency by Selective Left Ventricular Angiocardiography. Am. Heart J. 60:191, 1960.

23. Amplatz, K., Lester, R. G., Ernst, R. and Lillehei, C. W.: Left Retrograde Cardioangiography. Radiol. 76:393, 1961.

24. Levine, S. A. and Harvey, W. P.: Clinical Auscultation of the Heart. Philadelphia, W. B. Saunders Co., p. 561, 1959.

25. Johnson, F. D.: Extra Sounds Occurring in Cardiac Systole. Am. Heart J. 15:221, 1938.

26. Reid, J. V. O.: Midsystolic Clicks. So. African Med. Jr. 35:353, 1961; 105:349, 1960.

27. Leatham, A.: Value of Auscultation in Cardiology. Arch. Int. Med. 105:349, 1960.

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Notes on Missouri's Accidents

Missouri's mortality patterns have shifted since 1911. Infectious and parasitic diseases have been controlled and replaced by chronic diseases as leading causes of death. Throughout these changes, however, accidents have consistently remained a leading cause of death. Accidents ranked fourth in causes of death in 1911, and accidents ranked fourth in 1960.[1, 2]

Among Missouri's population, age is a significant variable in the incidence of fatal accidents. As reported in 1960 accidents were the chief cause of death in the population from birth to 14 years.[2] While accidents account for about half of the deaths in the first year of life they produce more fatalities in the age group between one and 14 years than the next three leading causes of death combined. As the age of the individual increases from 15 to 35 years, the likelihood of fatality from non-vehicular accidents steadily diminishes. After age 35 accidents remain a significant cause of death, but neoplastic and degenerative diseases gradually assume greater importance. The greatest frequency of accidental deaths occurs in the population over the age of 65 years. The importance of fatal accidents in this age group, however, is masked by the sudden rise of fatalities caused by chronic diseases.[3]

The major type of accident varies by age group. Fire, explosion and mechanical suffocation cause the bulk of accident deaths in the age group from birth to 14 years. As age increases, the risk of death due to motor vehicle accidents increases and accounts for over one-half the deaths in the age group, 15 to 24 years. From age 25 to age 65 motor vehicle accidents continue to cause the largest portion of accident fatalities, but the rate of these fatalities begins to decline after 35 years. Only at age 75, however, does motor vehicle accidents cease to hold any importance as a contributory cause to the accident death rate. Occupational and home accidents show a gradual increase with age in the group of 35 to 65 years. With the exception of agricultural accidents the importance of occupational accidents diminishes after age 65 years. The most common cause of accidental death in the age group over 65 years is falls in the home, and these falls are frequently to the same level rather than on steps.

Accidental deaths have been very selective in terms of the victim's sex. Since 1911 approximately 70% of the total accidental deaths have occurred among males. The number of fatal accidents for females exceeds the number for males only in the age group over 65 years, but the rates for these two groups are nearly equal when based upon the sex distribution of the aged population. In Missouri accidental deaths have been unevenly distributed by race, too. Greater rates of non-white accident deaths appear in all age groups. The total rates were 5.7 and 7.4 per 10,000 for whites and non-whites respectively in 1960. The rates for motor vehicle fatalities are nearly equal for whites and non-whites, but there is lack of sufficient data for analysis of other factors.

Other variables are operative in the incidence of fatal accidents. The rate of accidental deaths varies by size of place. The highest rates occur in the least populated counties. As the population size of counties increases, the fatal accident rate decreases, and the lowest rate occurs in cities with a population over 50,000. The above variables are also influenced by such factors as socio-economic class, availability of emergency medical facilities, emotional problems, marital status and general living conditions.

The significance of accident deaths lies not

(Continued on page 661)

Missouri's mortality patterns have changed during the past 50 years, but accidents remain a leading cause of death in the state. The authors review the major variables associated with accident fatality; and they compare the social cost of fatal accidents with the cost of the so-called "major killers." The authors are from the Department of Community Health and Medical Practice at the University of Missouri School of Medicine. Dr. Jones and Mr. Neser are Assistant Professors; Mr. Borland is a graduate student.

L. HENRY LACKNER, M.D., *St. Louis*

Nephrogenic Hepatosplenomegaly

Case Report

A case report and review of literature demonstrating the importance of detecting certain blood chemical abnormalities which may assist in early diagnosis and possible cure of renal cancer. The author also concludes that intravenous pyelography should be performed on any patient with unexplained liver-cell dysfunction. Doctor Lackner is Senior Resident in the Department of of Surgery, Section on Urology, Washington University School of Medicine.

THE PROTEAN MANIFESTATIONS OF CANCER in general and of hypernephroma specifically present many diagnostic enigmas. Polycythemia, fever, hypercalcemia and other systemic manifestations may occur in association with localized adenocarcinoma of the kidney. This case report illustrates the importance of several less well-recognized blood chemical abnormalities which may contribute to early diagnosis and possible cure of renal cancer. In addition, the case illustrates rare sites of metastatic renal cell carcinoma, i.e., the renal pelvis and ureter.

CASE REPORT

A 48-year-old iron construction worker with no history of abnormal alcohol intake was admitted to Barnes Hospital for the first time on March 26, 1964 with complaints of fatigue, fever, and weight loss. He had been well until December 1963, when he developed fatigue and progressive weight loss from 135 to 101 pounds over the ensuing three months despite a normal caloric intake. Subsequently, the patient began to have profuse night sweats and afternoon fever of up to 103 F. He was discovered to be anemic. From March 3 until March 24, 1964 he was evaluated at a hospital in his home town where he was found to have persistent, microscopic hematuria, an elevated serum alkaline phosphatase level (69.6 Bodansky units) and a persistent filling defect in the left renal pelvis by intravenous (Fig. 1) and retrograde pyelography. He was given three blood transfusions and Aristocort 4 mg., five times daily. He was then transferred to Barnes Hospital.

The patient was a well developed white man with profound weakness and evidence of recent weight loss. His weight was 101 lbs., blood pressure 120/60 mm., pulse 104, and temperature 37.3 C. Careful examination of all peripheral lymph node areas revealed no palpable node enlargement. A definite liver edge was not felt, but dullness could be percussed 3 cm below the right costal margin in the right anterior axillary line, and it was thought that the liver was ballotted 7 cm below the right costal margin in the mid-clavicular line.

Complete blood counts were as follows: white blood cells 10,700/cu. mm.; hemoglobin 9.1 gm/100 cc; hematocrit 30.5%. Differential: 68% segmented neutrophils, 3% eosinophils, 10% mature lymphocytes, 1% intermediate lymphocytes, and 18% monocytes. Red blood cell indices were determined as follows: mean corpuscular volume 82 cubic microns; mean

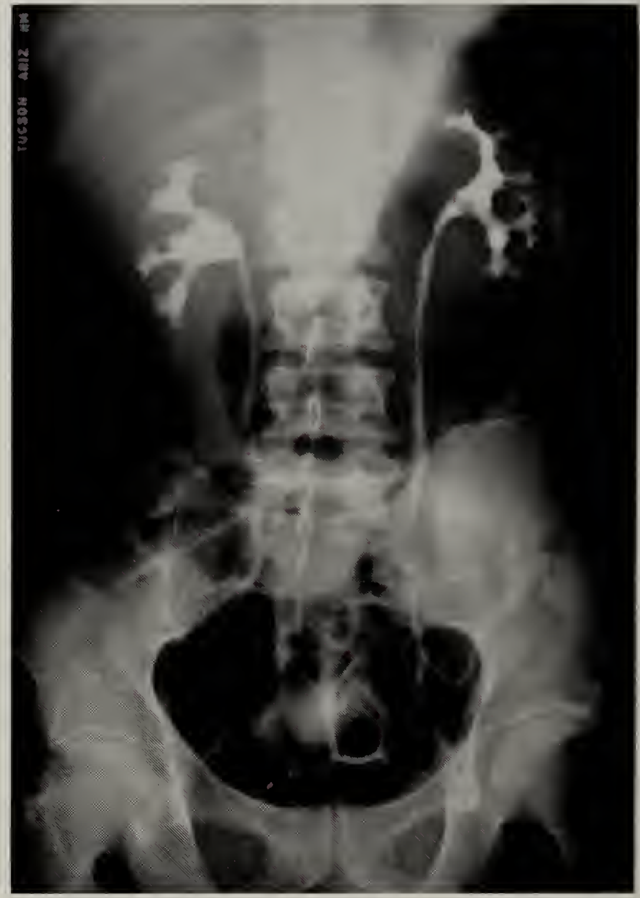

Fig. 1 Intravenous pyelogram from reported case. Note left renal pelvic filling defect.

corpuscular hemoglobin 25 micromicrograms; mean corpuscular hemoglobin concentration 30%.

Urinalysis revealed a specific gravity of 1.020, pH 5, protein trace, sugar negative. The sediment was not abnormal.

Additional laboratory data obtained during the first week of hospitalization were as follows: fasting blood sugar 81 mg/100 cc; blood urea nitrogen 16 mg/100 cc; serum calcium 9.2 mg/100 cc; phosphorus 4.4 mg/100 cc; alkaline phosphatase 19.2 Bodansky units; blood uric acid 3.1 mg/100 cc; cephalin cholesterol flocculation negative; thymol turbidity 3.9 units; serum bilirubin less than 0.8 mg/100 cc; prothrombin time 18 seconds, giving a prothrombin level of 51%. A bromsulphalein retention test revealed 15.4% retention of the dye at the end of 45 minutes. The total serum protein was 7.3 gm/100 cc, of which 3.2 gm/100 cc was albumin and 4.1 gm/100 cc was globulin. Serum protein electrophoresis revealed 30.1% albumin, 9.0% alpha-1 globulin, 17.3% alpha-2 globulin, 16.7% beta globulin, and 26.9% gamma globulin. The serum glutamic pyruvic transaminase was 68 units/100 cc. The blood cardiolipin reaction was nonreactive.

Cytologic examination of the urine sediment was done on two occasions. On March 27 no abnormal cells were seen, but atypical cells were reported on March 31.

An intravenous pyelogram performed on March 27 revealed a filling defect in the left renal pelvis without evidence of a renal cortical mass. The right kidney measured 15.5 cm in length, and the left kidney measured 16.0 cm in length. An X-ray of the abdomen revealed hepatomegaly and splenomegaly and bilaterally enlarged kidneys, but films of the skeleton showed no evidence of bone metastases and chest films showed no pulmonary metastases.

A percutaneous Menghini needle liver biopsy was performed on March 29. Very slight focal necrosis of the liver cells with slight lymphocytic infiltration was seen.

On April 3, surgical exploration of the abdomen was performed through an upper transverse abdominal incision. The liver was enlarged but it was smooth and normal in appearance without evidence of metastatic carcinoma. The spleen was about twice its normal size. The right kidney was slightly enlarged but felt otherwise normal. The abdominal incision was closed, and a left flank incision was then made. The left kidney was seen to be extensively involved with tumor, and a nephrectomy was performed. The gross specimen revealed a necrotic tumor, 4 x 4 x 2 cm in size, in the lower pole of the left kidney with multiple parenchymal tumor nodules. (Fig. 2) In the renal pelvis there were two nodular masses measuring approximately 1.5 cm in diameter which proved on microscopic examination to be anaplastic renal adenocarcinoma. (Fig. 3) In addition, metastases were noted along the course of the left ureter.

The patient became afebrile immediately postoperatively, and the blood chemical abnormalities noted before nephrectomy returned to normal.

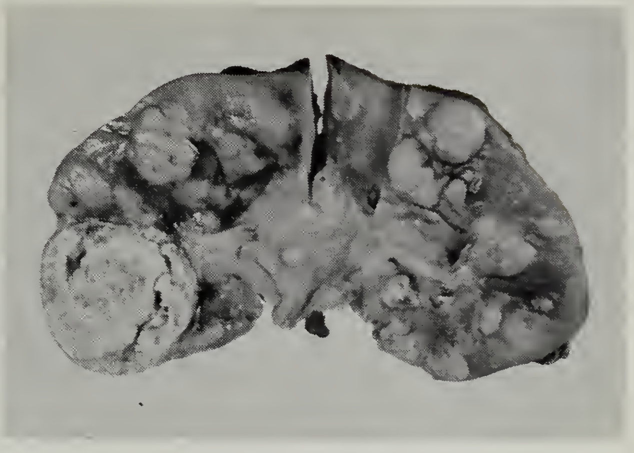

Fig. 2 Gross specimen of left kidney with multiple nodules of renal cell cancer and two satellite nodules in renal pelvis.

The patient was last seen on May 1, 1964, at which time he had no complaints. His general health and appetite were much improved. He weighed 109 pounds in comparison to his lowest pre-operative weight of 94 pounds. He stated that he had had no fever since the operation.

Physical examination revealed his temperature to be 37.4 C. There were no other abnormal findings except for percussible dullness extending five centimeters below the right costal margin. The serum alkaline phosphatase was 4.8 Bodansky units. The total serum protein was 7.3 gm/100 cc of which 3.9 gm/100 cc was albumin and 3.4 gm/100 cc was globulin. Serum protein electrophoresis revealed 53.6% albumin, 5.6% alpha-1 globulin, 10.5% alpha-2 globulin, 11.3% beta globulin and 19% gamma globulin.

DISCUSSION

The rarity of ureteral spread from hypernephroma is borne out by the absence of any

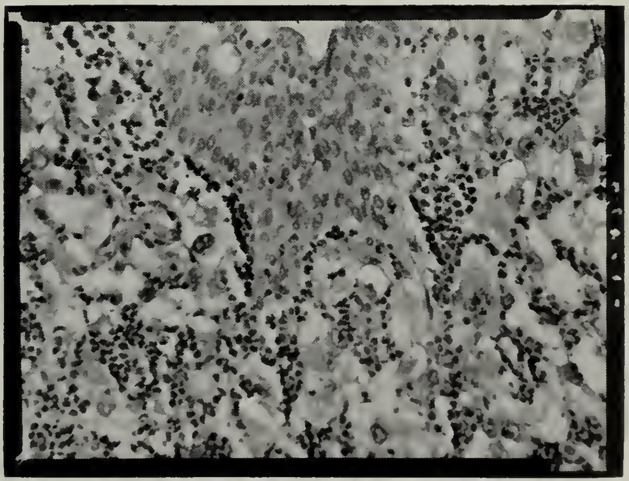

Fig. 3 Microscopic section through a metastatic renal pelvic nodule showing renal cell cancer beneath the normal transitional cell epithelium.

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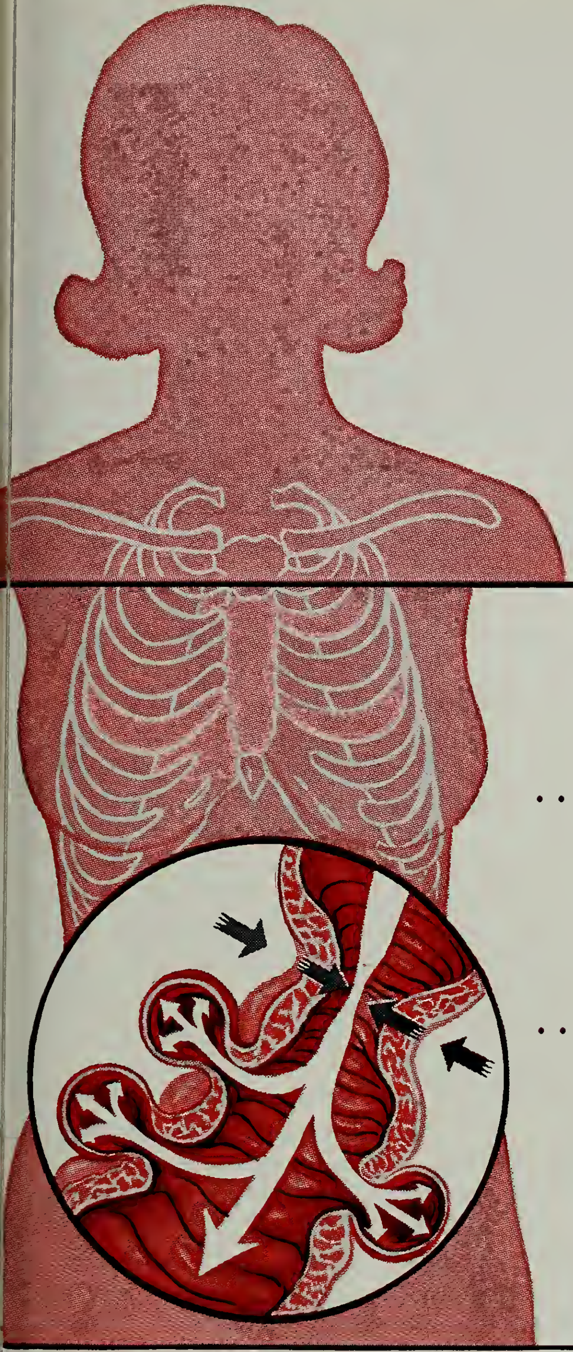

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SEARLE

Research in the Service of Medicine

reference to the phenomenon in the extensive review of renal and ureteral tumors by Richards, Griffiths, and Thackray.[1] Macalpine[2] reviewed all the case reports of cancer metastatic to the ureters in the world literature from 1902 to 1938 and concluded that only 13 cases were primary renal cell carcinomas.

Berger and Sinkoff[3] reported that among their 252 cases of hypernephroma "urography revealed findings of renal tumor *in every case* in which it was performed." It is, therefore, extraordinary that after extensive urological work-up in this case intravenous and retrograde pyelograms disclosed no suggestion of renal parenchymal tumor.

Stauffer[4] observed five patients with renal neoplasms that had hepatosplenomegaly and abnormalities of the liver function similar to those seen in the patient reported here, i.e., abnormal bromsulphalein retention, hypoalbuminemia, elevated alpha-2 globulin,[5] prolonged prothrombin time and elevated serum alkaline phosphatase. Liver biopsy showed no evidence of metastases, and all abnormal variants returned to normal after nephrectomy, just as occurred in our patient. This "syndrome" has been variously referred to as "nephrogenic hepatosplenomegaly" and "nonmetastatic hepatomegaly."[5, 6] Shipman's case,[7] the five cases observed by Stauffer and the one of Mohamed's are the only reported cases of hypernephroma, to my knowledge, which manifested elevation of serum alkaline phosphatase levels with normal serum calcium and phosphorous values in the absence of osseous metastases.

The mechanisms responsible for the blood chemical abnormalities in this case and their return to normal, post-nephrectomy, are a matter of speculation. It is well established that fever may be associated with abnormal bromsulphalein retention and abnormalities of other liver function tests.[8] Fever with attendant dysfunction might explain the bromsulphalein retention, the elevated transaminases and the abnormal prothrombin time in this patient, but the serum protein abnormalities and striking elevations of serum alkaline phosphatase activity would be difficult to attribute to fever alone.

Bell[9] states that renal cell carcinomas metastasize to the liver in approximately 36% of cases, the most common metastatic site being lung (55%). The mode of spread is generally via the renal vein by means of tumor thrombus, and the liver is usually involved by extension into the central hepatic vein. Rarely, spontaneous disappearance of pulmonary metastases[10] and even apparent cure have been noted to occur after resection of a hypernephroma. The regression of liver metastases post-nephrectomy would seem to be a rather unlikely explanation for reversion to normal of abnormal liver function tests in our case, but this possibility does exist.

The final possibility to be considered in explaining the hepatic dysfunction in this patient is that his tumor exerted some kind of deleterious, remote (humoral) effect upon the liver, and that this effect was removed when the tumor (or the major portion of it) was removed. Abels, *et al.*[11] showed that patients with cancer of the gastro-intestinal tract had a high incidence of abnormal liver function tests which could not be explained of the basis of hepatic metastases, malnutrition or any other known factor. In addition they reported a considerably lower incidence of hepatic dysfunction in patients whose gastro-intestinal malignancies had been removed. As has already been pointed out, Stauffer noted that abnormal liver function in patients with hypernephroma returned to normal after nephrectomy. Griffin, *et al.*[12] have summarized the evidence in support of the hypothesis that a "toxohormone" is elaborated by malignant cells. These authors have partially purified a substance extracted from tumors which is capable of depressing mouse liver catalase activity when injected in very small quantities. "The interference by tumors or by toxohormone preparations with iron utilization, the production of anemias, and other indications of altered porphyrin metabolism in patients or animals with cancer also support this overall concept."

The hypothesis that the serum protein abnormalities, serum alkaline phosphatase activity and other abnormal liver function tests in this case are in some way a result of the elaboration of a humoral substance by the tumor is indeed attractive, particularly in view of the many other systemic manifestations associated with cancer.[5] It is possible that some, or even all, of the above mentioned blood chemical abnormalities may be mediated by the effect of this hypothetical factor upon the liver. It would then follow that the removal of all or a major portion of the tumor would result in an amelioration of liver function and a return to normal of the blood chemical determinations.

Summary

The patient in our reported case presented with fever and weight loss; and was discovered to have hepatosplenomegaly, striking elevation of serum alkaline phosphatase activity with normal serum calcium and phosphorous levels, abnormal liver function with bromsulphalein retention, elevated alpha-2 and gamma globulin levels. Exploratory surgery disclosed anaplastic adenocarcinoma of the left kidney with metastases to the renal pelvis and ureter without evidence of metastases to the liver, lungs, bones, brain, bone marrow or other organs. After nephrectomy the temperature, liver function tests, alkaline phosphatase and serum protein abnormalities reverted to normal. In any patient with unexplained liver-cell dysfunction, intravenous pyelography should be performed to exclude hypernephroma.

Acknowledgement: I am indebted to Drs. Justin J. Cordonnier and William T. Bowles of the Department of Urology, Washington University School of Medicine, for their assistance with the manuscript; and to Dr. Phillip J. Dattilo for referral of this patient.

Bibliography

1. Richards, E. W., Griffiths, I. H. and Thackray, A. C.: New Growths of the Kidney and Ureter. Brit. J. Urol. 23:297, 1951.
2. Macalpine, J. B.: Implantation of Secondaries From a Renal Carcinoma (Hypernephroma) Within the Ureteric Lumen. Brit. J. Surg. 36:164, 1948.
3. Berger, L. and Sinkoff, M. W.: Systemic Manifestations of Hypernephroma. A Review of 273 Cases. Am. J. Med. 22:791, 1957.
4. Stauffer, M. H.: Nephrogenic Hepatosplenomegaly. Gastroenterology 40:694, 1961. (Abstract)
5. Greenberg, E., Divertie, M. B. and Woolner, L. B.: A Review of Unusual Systemic Manifestations Associated With Carcinoma. Am. J. Med. 36:106, 1964.
6. Mohamed, S. D.: Reversible Non-Metastatic Liver-Cell Dysfunction and Thrombocytosis From a Hypernephroma. Lancet 2:621, 1965.
7. Shipman, K. H., Downing, S. W. and Bradford, H. A.: Hypernephroma Presenting Fever of Unknown Origin Associated With Elevated Serum Alkaline Phosphatase Level. J. Urol. 80:160, 1963.
8. Schiff, L.: Diseases of the Liver, 2nd Edition. Philadelphia, Montreal, J. B. Lippincott Company, 1963.
9. Bell, E. T.: Renal Diseases, 2nd Edition. Philadelphia, Lea and Febiger, 1950.
10. Ackerman, L. V. and Del Ragato, J. A.: Cancer Diagnosis, Treatment and Prognosis. St. Louis, The C. V. Mosby Company, 1962.
11. Abels, J. C., Rekers, P. E., Binkley, G. E., Pack, G. T. and Rhoads, C. P.: Metabolic Studies in Patients With Cancer of the Gastro-Intestinal Tract. II, Hepatic Dysfunction. Ann. Int. Med. 16:221, 1942.
12. Griffin, A. C., O'Neal, M. A. and Otsuji, S.: Characterization of a Toxin Isolated From Malignant Tissues, pp. 607-618 in Biological Interactions in Normal and Neoplastic Growth. Ed. by Brennan, M. J. and Simpson. W. L. Boston, Massachusetts, Little, Brown and Company, 1962.

Notes on Accidents (Cont'd)

only in their number and the age groups attacked, but also in the social and economic implications for society. According to Stickle,[4] the relatively younger age of accident victims creates a potential income loss which exceeds that caused by either stroke or cancer, and costs more potential life-years than stroke and nearly as many life-years as cancer. Whether the accident fatality occurs solely on the basis of fortuity or results from the victim's behavior, the accompanying social problems do not cease with his death and are difficult to measure. Accidents also must be viewed from the standpoint of impact on family and community resulting from the untimely, and frequently sudden, demise of such victims as "head of family," "only child" and so forth. Grief, economic and emotional dependency, and waste of technological, intellectual and social skills are but a few of the social consequences of fatal accidents.

Accidents, one of the "major killers," remains relatively ignored in community prevention and treatment programs.[*] With increasing national emphasis on heart, stroke and cancer this trend will probably continue.

[*] See Editorial on Page 667.

Bibliography

1. Missouri Division of Health: Biennial Report. Jefferson City, 1911, 1920, 1930, 1940.
2. Missouri Division of Health: Vital Statistics. Jefferson City, 1950, 1960.
3. U. S. Department of Health, Education, and Welfare: Vital Statistics of the United States: 2, Part B, 1963.
4. Stickle, G.: What Priority, Human Life? Am. J. Public Health 55:1692, 1965.

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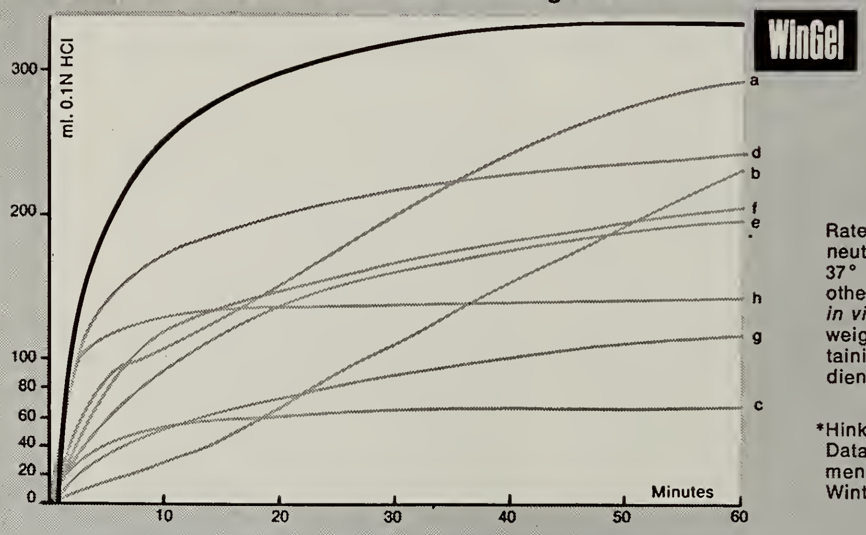

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President's Message

Dr. James Z. Appel, outgoing president of the AMA, in his report to the House of Delegates at the Annual Convention in June had some strong words of truth for the physicians of America.

"It becomes incumbent upon the medical profession," he said, "not to alibi its loss of the battle by such statements as: 'We lost the battle because Congress did not truly reflect the opinion of this country.' *Congress should and did reflect the opinions of those who elected it.* It was elected by not only those who voted for the successful candidates but also by the apathy of those who did not vote or did not participate in an active capacity in the political campaign preceding the election."

Dr. Appel was, of course, referring to Medicare, but his statement applies equally well to other matters affecting medicine and government and the physician as a citizen.

Even after our experiences over the past several years, the area of politics apparently still is a tainted one to many physicians, something to be avoided. Yet, politics and government are almost inseparable. To profess to want to achieve good government, while shunning contact with politics, is foolishness. Good government, dedicated toward the fundamental best interests of the people, is not automatic. Interested citizens, including physicians as an intelligent, educated leadership group, must work and work hard to attain the goal.

The work includes not only maintaining an informed interest in politics and government, but also taking an active part in civic projects and in local community affairs. It means actual work for the party and candidate of your choice in election campaigns in your area. It means joining organizations that promote good government. It means sending your membership check to the Missouri Medical Political Action Committee in support, on broader political fronts, of those who share your views and the views of the medical profession.

Observers see this fall's elections as perhaps the most important off-year elections in many years. The 4,000 physician members of MSMA can be a potent force in the campaign . . . but only if they "participate in an active capacity" and give of their time, their effort and their money.

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Precautions: Careful supervision of dose and amounts prescribed is advised. Consider possibility of dependence, particularly in patients with history of drug or alcohol addiction; withdraw gradually after use for weeks or months at excessive dosage. Abrupt withdrawal may precipitate recurrence of preexisting symptoms, or withdrawal reactions including, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, the dose should be reduced and operation of motor vehicles or machinery or other activity requiring alertness should be avoided if these symptoms are present. Effects of excessive alcohol may possibly be increased by meprobamate. Grand mal seizures may be precipitated in persons suffering from both grand and petit mal. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

Side effects: Drowsiness may occur and, rarely, ataxia, usually controlled by decreasing the dose. Allergic or idiosyncratic reactions are rare, generally developing after one to four doses. Mild reactions are characterized by an urticarial or erythematous, maculopapular rash. Acute nonthrombocytopenic purpura with peripheral edema and fever, transient leukopenia, and a single case of fatal bullous dermatitis after administration of meprobamate and prednisolone have been reported. More severe and very rare cases of hypersensitivity may produce fever, chills, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, anaphylaxis, stomatitis and proctitis. Treatment should be symptomatic in such cases, and the drug should not be reinstituted. Isolated cases of agranulocytosis, thrombocytopenic purpura, and a single fatal instance of aplastic anemia have been reported, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity has been reported, usually after excessive meprobamate dosage. Suicidal attempts may produce lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

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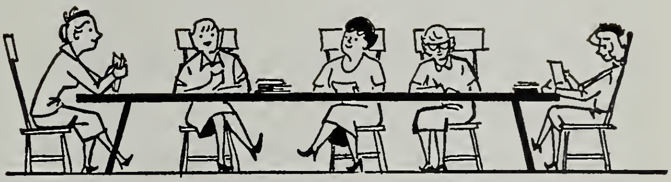
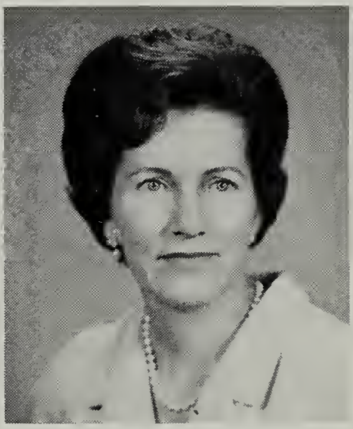


It has been said that one of the millstones of "Medicare" will be the lack of trained personnel in all of the allied fields of the medical profession.

Your Auxiliary has a committee called Health Careers, and it has organized programs at the national, state and local levels. For many years this committee has been actively engaged in trying to interest high school students in becoming nurses or doctors or in becoming trained in one of the many paramedical areas. We have helped to establish Future Nurses Clubs and have planned and executed Health Career Days in high schools. We have circulated informative literature on allied health careers, supplied speakers to high schools and organized field trips for young people who have expressed interest in pursuing a career of medical and health work.

Many auxiliaries throughout Missouri have contributed heavily to scholarships for nurses and to loan funds for medical students. Your State Auxiliary at one time operated a Loan Fund for medical students until the State Medical Association established its own loan program. At that time your Auxiliary contributed its fund of more than *$12,000.00* to the Association's loan program.



Mrs. Wallace R. Stacey

We believe that if you KNOW YOUR AUXILIARY you will recognize the tremendous potential in the work of the Health Careers Committee . . . and that you will want to lend it your support.

EDITORIALS

INTRAVENOUS UROGRAPHY: ANATOMICAL VISUALIZATION SI! RENAL FUNCTION NO!

The use of newer radiographic media with higher iodine content per molecule and in increasing dosage has become commonplace for intravenous urograms. Porporis and his associates[1] some 12 years ago reported that *Urokon,* one of the first of the high iodine concentrate azotrites, was excreted chiefly by means of glomerular filtration and hence anatomical demonstration of the renal collecting system was proportional to the plasma iodine concentration.

Meschan[2] has recently again emphasized this fact for all of the newer media which are now used. This is in marked distinction to *Diodrast* which was excreted predominantly by renal tubular function.[3] I cannot recall a single intravenous pyelogram in the last 15 years where *Diodrast* was the medium injected. Yet almost every day I read a radiologist's report that "the injected media is excreted promptly and well, and the renal function of both kidneys is normal," or a resident will say, "the kidneys function normally on intravenous pyelography."

This objection is not merely quibbling over semantics, but an exceedingly important clinical question. An intravenous urogram may appear normal even in the face of marked bilateral renal damage if a massive dose of media was given. The use of an ordinary intravenous pyelogram as a screening test in hypertensive patients for possible renal ischemia implies directly that visualization is dependent only on renal blood flow. Let us say that the kidneys visualize equally and promptly and that they are anatomically normal, but not that renal function is normal since we are measuring only comparative renal blood flow or glomerular filtration.

WILLIAM F. MELICK, M.D.
St. Louis

1. Porporis, A. A., *et al:* The Mechanism of Urokon Excretion. Amer. J. Roentgenol., 72:995, 1954.
2. Meschan, I.: Background Physiology of the Urinary Tract for the Radiologist. Radiol. Clin. N. Amer., 3:13, 1965.
3. Josephson, B. and Kallas, J.: Iodine Concentration in Rabbit Kidneys After Diodrast Injection. Amer. J. Physiol., 174: 165, 1953.

REGIMENTATION OF MEDICAL PRACTICE

There was a time when a physician need answer only to God and to his conscience. Whatever his shortcomings in the knowledge or training, yesterday's doctor was Captain of the Medical Ship.

Those days are gone forever. The social and economic revolution of the past two decades has had profound effects on medical practice. The most disturbing of these is the speed with which the control of medicine is passing from private to public hands.

Today's doctor finds his practice supervised not only by the local, state and federal government, but by a myriad of professional organizations as well. The AMA, the AHA, the ACP, the ACS, etc., etc., ad nauseum, all have their rules and regulations. There isn't a hospital worthy of the name with less than fifteen standing committees for the sole purpose of regulating the professional activities of its staff. On July 1, 1966 a large segment of our population will come under federally regulated Medicare. If today's trends are any indication of the future, tomorrow's physicians will be practicing in an environment of even greater regulation and control. Furthermore, they will be subjected to regimentation of another type which may prove to be the greatest challenge of all. They will have to cope with the unyielding discipline of new knowledge and technology increasing at a rate so rapid that even computors can't keep up.

As society grows more complex, we realize that a certain amount of regimentation is inescapable. Some may even be necessary. Unfortunately, most of it is simply the reflection of the bureaucratic thinking of our times. We are alert to the threat. We resent it and we are within our rights when we fight it with every legal means at our disposal.

Is there any hope for the future? In my opinion, there is and it lies in the simple fact that medicine will always be a private relationship between the doctor and the patient. Regardless of the system of medical practice, people will continue to see doctors in search of relief from their physical and emotional ailments. They have the right to expect the physician to be a human being, sympathetic to their problems and whose primary concern is for their welfare. Doctors will do well to remember this and not allow their anger and resentment at the system to interfere with their best medical judgment. Until better criteria are developed, the patient can do worse than trust the doctor who answers to God and to his conscience.

SHERMAN M. STEINZEIG, M.D.
Greater Kansas City Medical Bulletin
May 14, 1966

THE PHYSICIAN AND ACCIDENT PREVENTION

This year, for the first time, the AMA focused on accident injuries and fatalities through the Third Congress on Environmental Health Problems. Dr. Norvin C. Kiefer, chairman of the National Safety Council's medical advisory committee, cited the lack of physician support in safety programs. The recent Congressional hearings regarding automobile safety drew additional public attention to the problems of accident prevention and treatment programs. This focus upon accidents poses a dilemma for the individual physician, namely, determining the nature and extent of his participation in accident prevention and treatment. His involvement in accident control may be personal and take place within his own practice. Physician involvement may also take place in organized public programs.

In personal involvement in accident prevention, the physician concentrates upon identifying and assisting high risk patients in his practice. Pediatricians, for example, can instruct mothers on ways to reduce childhood accidents in addition to expressing concern regarding nutrition and immunizations. Family physicians can emphasize the high risk of falls in elderly, debilitated patients. The determination of the high-risk driver by known pathologic condition is another contribution to accident prevention. A more public display of personal concern was illustrated by the physician-pickets who appeared outside the International Automobile Show in New York earlier this year.

Participation in the fight against accidents also may take the form of involvement in organized programs at the local, state or national levels. The number of local organizations vary, but usually a safety council or similar group exists, and municipal governments frequently have one or more safety programs. At the state level concern may consist of working for proper safety legislation; participating in the activities of state-wide health, safety and emergency care groups; or supporting official state programs such as those which are sponsored by divisions of industry, health and motor vehicle registration. At the national level insurance companies and voluntary agencies support and promote independent projects while government programs are fragmented and based in a number of bureaus and departments. These national efforts, too, need professional support and guidance.

In attempting to combat accidents, the physician is thus confronted with an array of alternatives. He must take some positive action, however, in order to remove accidents from among the chief causes of mortality.

WILLIAM B. NESER, M.S.
Columbia

IN SUPPORT OF VOLUNTARYISM

A medical spokesman has called on the insurance industry to join with medicine in a large-scale educational program to inform the general public of the dangers inherent in any extension of the Medicare law and the advantages of a voluntary approach to health care financing.

In an address to the annual meeting of the Health Insurance Council Jack Schreiber, M.D., a general practitioner from Canfield, Ohio, urged insurers to implement the program by establishing a national planning "Committee of 100" comprised of a prominent physician from each state and each of the HIC's State Committee Chairmen.

Such a program, he said, would involve insurers working closely with state and county medical societies, and would utilize all of the techniques of modern communications. These would include advertising, local radio and television announcements jointly sponsored by medical societies and insurance companies, and other use of mass media in large metropolitan centers and "eyeball to eyeball" contact in smaller cities, he stated. He called for the development of pamphlets and other material explaining the flexibility of private health insurance that is "cheaper in the long run" and which provides better service than compulsory programs.

"Medicare is very likely to produce much misunderstanding due to overselling and underpricing by government," Dr. Schreiber said. Overselling the program will have the result that benefits implied cannot be delivered, he said. Furthermore, he stated, when actual costs of Medicare are known to the public it will bring about an "outcry for controls."

"It is not enough to belittle the *status quo* or find fault," Dr. Schreiber said. "Insurance and medicine must join hands now and show the public that the private, voluntary way is far superior to the compulsory Federal way."

TIME, THE HEALER

Early in 1944 I was taken into the United States Army after nine months of internship. It was a good internship and I soon became very thankful for that.

My first post was a newly activated station hospital which served not only a considerable number of the military but also the civilian dependent population of Los Angeles. The hospital was woefully understaffed. As a result, I was placed in charge of two acute medical wards; me, the greenest of the green, in charge of sixty patients with pneumonia, meningitis, the exanthems, etc., etc.

At first I was overwhelmed, as well I might have been, but it was my good fortune, both to the left and to the right of my wards, to have excellent and experienced internists. Without leading me to suspect connivance each of them quietly came and volunteered that he was not as burdened with patients as myself and would be glad to lend a hand when I needed it. This proved to be the bulwark I needed and was one of the most pleasant working relationships I have experienced in medicine. I was quietly supervised but never put upon. I have always been grateful for the knowledge I gained and the responsibility I carried during that year.

One of these helpful friend-physicians was a particularly good teacher. He had the perception to quickly ascertain the heart of a problem and the facility to illuminate it. I am sure he was amused more than once by my youthful impatience when a patient did not show the steady improvement I expected of him. One day, when I suppose he had held his silence as long as possible, he said in a kindly way, “One thing you must learn, Lieutenant, is that time will generally work in your favor, especially with these young patients. You want things to happen according to the schedule you have set up but you and I are working with imperfect knowledge and imperfect medicines. Do the best you can to confront the problems of today and you will find, if your treatment has been good, that patience will solve many of the problems of tomorrow.”

How fine that advice has been! How true it still is, even though I have now reached what might euphemistically be termed maturity. The thought applies quite as well in medicine today as it did twenty-two years ago, when we had no corticosteroids and only a dribble of penicillin. The flow of medicine is more rapid now but does not Time, the Healer still play his inexorable part in our successes? How little credit we give him!

WILFRED E. WOOLDRIDGE, M.D.
Greene County Medical Society
Bulletin
April 1966

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Contraindications: In hyperexcitability and in agitated prepsychotic states. Previous allergic or idiosyncratic reactions.

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Dextro-amphetamine sulfate: Use by unstable individuals may result in psychological dependence.

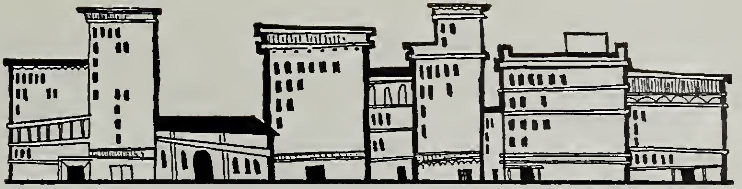
Meprobamate: Careful supervision of dose and amounts prescribed is advised; especially for patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g. alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence. Where excessive dosage has continued for weeks or months, reduce dosage gradually. Sudden withdrawal may precipitate recurrence of pre-existing symptoms such as anxiety, anorexia, or insomnia; or withdrawal reactions such as vomiting, ataxia, tremors, muscle twitching and, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, reduce dose—operation of motor vehicles, machinery or other activity requiring alertness should be avoided. Effects of excessive alcohol consumption may be increased by meprobamate. Appropriate caution is recommended with patients prone to excessive drinking. In patients prone to both petit and grand mal epilepsy meprobamate may precipitate grand mal attacks. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

Side Effects: Overstimulation of the central nervous system, jitteriness and insomnia or drowsiness.

Dextro-amphetamine sulfate: Insomnia, excitability, and increased motor activity are common and ordinarily mild side effects. Confusion, anxiety, aggressiveness, increased libido, and hallucinations have also been observed, especially in mentally ill patients. Rebound fatigue and depression may follow central stimulation. Other effects may include dry mouth, anorexia, nausea, vomiting, diarrhea, and increased cardiovascular reactivity.

Meprobamate: Drowsiness may occur and can be associated with ataxia, the symptom can usually be controlled by decreasing the dose, or by concomitant administration of central stimulants. Allergic or idiosyncratic reactions: maculopapular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case of fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis (1 case), anaphylaxis, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdosage may produce drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor, and respiratory collapse.

From the Medical Schools



Scholarship funds totaling $3,807,800 have been made available to 227 schools of medicine, dentistry, optometry, osteopathy, podiatry and pharmacy under the new Health Professions Scholarship Program of the Public Health Service. The funds for the fiscal year 1967 are authorized under the Health Professions Educational Assistance Amendments of 1965, and will be used to assist students from low-income families. Scholarships will be available to full-time first-year students who are entering health profession schools this fall. A student may receive up to $2,500 for an academic year. Missouri University School of Medicine has been allotted $17,000; St. Louis University School of Medicine, $23,600; and Washington University School of Medicine, $17,600.

Surgeon General William H. Stewart also has announced that initial allotments for the fiscal year 1967 have been made to 196 health profession schools for the Health Professions Student Loan Program. These total $12,716,583. Loans of up to $2,500 for an academic year may be arranged through the individual schools. The student agrees to repay the loan over a ten year period beginning three years after completion of his course of study. Interest accrues on the loan only during the repayment period. More than $74,000 has been made available for such loans at the University of Missouri School of Medicine; nearly $113,000 has been allotted to St. Louis University School of Medicine; and more than $75,000 will be available through Washington University School of Medicine.

UNIVERSITY OF MISSOURI

Blair Behringer, a 31-year-old junior medical student at the University of Missouri, has been elected president of the Student American Medical Association for the 1966-67 year. Behringer, a commissioned Captain in the United States Air Force with more than 2,000 hours of time as a B-47 and B-52 pilot, was president of the SAMA chapter at Missouri. In 1965-66, he served the national organization as treasurer. He stands in the upper 5 per cent of his class. The new SAMA president was born in Jackson Heights, New York, and did his undergraduate work at MIT and Missouri. He is married and has one child.

Dean Vernon E. Wilson, M.D., has been awarded the Commandant's Certificate of Merit of the Ninth Naval District of the United States Navy at Great Lakes, Ill., in recognition of his "outstanding service" to the Navy in support of the Naval Reserve Medical Program.

Theodore M. King, M.D., Ph.D., assistant professor of obstetrics and physiology, has been named a "Macy Faculty Fellow in Obstetrics," by the Josiah Macy, Jr., Foundation of New York. The award is made to outstanding young physicians in academic obstetrics, and Dr. King is one of ten physicians in the United States to receive the honor this year. A grant of $45,000 to Dr. King payable over a three-year period accompanies the fellowship.

Roland Leeson, M.D., professor of anatomy at the University of Iowa, has been appointed professor of anatomy at the M. U. School of Medicine. Dr. Leeson also will serve as acting chairman of the Department of Anatomy, succeeding Milton D. Overholser, M.D., professor of anatomy and chairman of the department. Dr. Overholser has retired from the chairmanship, which he had held since 1934, and will return to full-time teaching.

The U. S. Public Health Service is awarding a $130,024 grant for the first year support of a research project directed by Dr. Donald A. B. Lindberg, director of the Medical Center Computer program. The research project is concerned with computer recognition of human disease patterns. Co-investigators with Dr. Lindberg, who is an assistant professor of pathology, are Dr. H. J. van Peenen, associate professor of pathology, and Dr. Francis Watson, research associate in community health and medical practice.

A Birth Defects Center has been opened at the Medical Center in Columbia. The new center, financed by a grant of $25,000 from the National Foundation, will complement existing services now available through the Missouri Crippled Children's Service and the Multiple Handicap Clinic. Research studies also will be done

WANTED

Scientific papers relating to clinical investigation, basic medical science or clinical medicine. Papers should be planned with 10-minute "in person" presentation in mind. Authors of selected works will be invited to present their papers at the 109th Annual Session of the Missouri State Medical Association . . . April 6-9, 1967 . . . Chase-Park Plaza Hotel . . . St. Louis.

Send abstracts to:

John I. Matthews, M.D., Secretary
Missouri State Medical Association
634 N. Grand
St. Louis, Missouri 63103

in evaluating long-term care for children with birth defects. Dr. Gerard Van Leeuwen, assistant professor of pediatrics, will direct the new program, assisted by Dr. Helen Yeager, assistant professor of pediatrics. Dr. Ernest McCoy, associate professor of pediatrics and adviser to the March of Dimes, was instrumental in developing the new program. The only other birth defect center in Missouri is in St. Louis.

Dr. David J. Jones, assistant professor of Community Health and Medical Practice, has been named as one of eight recipients of a Milbank Faculty Fellowship. Four of the new Fellows are from the U. S. The others are from Chile, Columbia and Jamaica. The awards are presented annually by the Milbank Memorial Fund to young physicians who demonstrate potential as future outstanding leaders in the social and preventive aspects of medicine. The title carries a five-year grant of $40,000.

The University of Missouri Office of Continuing Medical Education has announced its tentative schedule of fall programs. All will be held at the Medical Center Auditorium in Columbia. Four programs are scheduled with the opener, *Neurological Problems in Office Practice,* set for September 16-17. A second conference on *Soft Tissue Trauma* will follow on October 14-15. The seventh annual *MD-Day* program will be held November 4-5, and a conference on *Current Concepts in Arthritis* is planned for December 7-8.

ST. LOUIS UNIVERSITY

St. Louis University and Project Head Start are coordinating efforts in providing comprehensive health care to more than 2,000 preschool children from low-income families in St. Louis City and County. Financed by a grant of $177,799 provided under contractual arrangements be-

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tween St. Louis University and the Human Development Corporation, the program began in May and will continue through August. The University and Cardinal Glennon Memorial Hospital for Children are making contributions equivalent to the additional sum of $38,522.50 by volunteering the use of the medical clinics, psychological facilities, speech and hearing clinics and the School of Dentistry clinics. Dr. Anne Bannon, clinical instructor in pediatrics at the School of Medicine, is project director for the Medical Component of the Head Start Child Development Program. Dr. Arthur E. McElfresh, chairman of the Department of Pediatrics at the School of Medicine and medical director, Cardinal Glennon Memorial Hospital, is chief consultant.

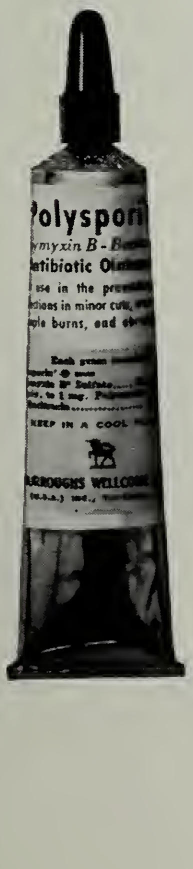
Dr. Frederick G. Germuth, Jr. has been appointed chairman of the department of pathology at the School of Medicine. Dr. Germuth, former director of Laboratories and Pathologist-in-Chief at Aultman Hospital in Canton, Ohio, will succeed Dr. Henry Pinkerton who has been named professor emeritus and director emeritus of the Department of Pathology.

Ceremonies marking the beginning of construction of the $3,000,000 five-story research wing addition to the School of Medicine were held June 20. The new wing will be constructed on the site of the present medical faculty parking lot to the east of the south and center wings of the existing structure. Construction will be completed in December, 1967.

A $60,000 gas chromotograph-mass spectrometer, the first to be installed in a medical school in the nation, has been added to the Department of Biochemistry at the School of Medicine. The equipment was purchased with the aid of a program project grant from the National Institutes of Health awarded to Dr. Robert E. Olson who is chairman of the department. The unique instrument, designed in Stockholm, Sweden, combines two techniques, gas chromotography and mass spectrometry. It utilizes the gas chromotograph to separate minute quantities of natural materials into individual pure components whose masses may then he determined immediately with the mass spectrometer.

WASHINGTON UNIVERSITY

An endowed professorship of otolaryngology has been established at Washington University School of Medicine by Lindburg Enterprises of St. Louis. The Lindburg Professorship of Otolaryngology will be held by Dr. Joseph H. Ogura, who became head of the Department



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of Otolaryngology July 1. The $500,000 gift was made at the direction of Mr. Arthur R. Lindburg, president of Lindburg Enterprises.

Thirty-seven faculty members received promotions July 1. Dr. George Winokur has been named Professor of Psychiatry. Promoted to research professors are Dr. Ira J. Hirsh, audiology in otolaryngology; Dr. Lee Robins, sociology in psychiatry, and Dr. Catherine A. Smith, otolaryngology.

Four physicians were promoted to full professor in clinical surgery. They are Dr. Eugene Bricker, general surgery; Dr. Louis T. Byars, plastic surgery; Dr. Leonard T. Furlow, neurological surgery, and Dr. Relton McCarroll, orthopedic surgery.

New associate professors are Dr. Walter Bauer, Dr. Malcolm McGavran, and Dr. George Sorenson, Department of Pathology; Dr. Norma A. Fletcher and Dr. Brent Parker, Department of Medicine, and Dr. George E. Murphy, Department of Psychiatry.

Dr. Morris Abrams was named Associate Professor of Clinical Genitourinary Surgery, and Dr. Thomas J. Walsh, Associate Professor of Clinical Medicine.

New assistant professors and their departments are Dr. Richard D. Aach, Dr. Saulo Klahr, Dr. George S. Kobayashi and Dr. Herbert Lubowitz, medicine; Dr. Ernst R. Friedrich, obstetrics and gynecology; Dr. Raymond Keltner, surgery; Dr. Allan E. Kolker, ophthalmology; Dr. Richard Kempson and Dr. John S. Meyer, pathology; Dr. Carlos Perez, radiology, and Miss LaVonne Jaeger, physical therapy.

Promoted to assistant clinical professor are Dr. Robert D. Brookes, Dr. James N. Haddock, Dr. Frank O. Shobe, psychiatry; Dr. Adolph Conrad, medicine; Dr. Marshall B. Conrad, orthopedic surgery; Dr. Robert C. Drews and Dr. Edward Okun, ophthalmology; Dr. Lawrence O'Neal and Dr. George L. Watkins, surgery, and Dr. Joseph W. West, otolaryngology.

Washington University has purchased the land and buildings of the old St. John's Hospital on Kingshighway and Audubon. The 5.4 acres of ground include a five-story general hospital, a six-story nurses' home, a five-story convent, and several small auxiliary buildings.

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New Members

Frazier D. Alexander, M.D., 4969 Enright Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Alexander is a native of Starkville, Miss., received his preliminary education at Fisk University, and his M.D. degree at McHarry Medical College in 1935. He is in general practice.

Luis E. Angles, M.D., 701 E. 63rd St., Kansas City, has become a member of Jackson County Medical Society. Dr. Angles is a native of Perico Matanzas, Cuba, received his preliminary education at La Progresiva Cardena and his M.D. degree at Havana University in 1950. He specializes in internal medicine.

Jay H. Armstrong, M.D., 4812 Black Swan Dr., Shawnee Mission, Kansas, has become a member of Clay County Medical Society. Dr. Armstrong is a native of Topeka, Kan., received his preliminary education at Kansas University and his M.D. degree at Kansas University in 1956. He specializes in radiology.

Louis D. Beis, M.D., 2601 Whittier, St. Louis, has become a member of St. Louis Medical Society. Dr. Beis is a native of Sopike, Gjinokastre, Albania, received his preliminary education at Washington University and his M.D. degree at University of Basel, Switzerland in 1959.

Harry R. Brady, M.D., 121st Evacuation Hosp., Ascom 2115 APO, San Francisco, has become a member of St. Louis Medical Society. Dr. Brady is a native of Pittsburgh, Pa., received his preliminary education at Georgetown University and his M.D. degree at the University of Pittsburgh in 1961. He specializes in ophthalmology.

Alton D. Brookreson, M.D., 700 Hendrix Dr., Poplar Bluff, has become a member of Butler-Wayne-Ripley County Medical Society. Dr. Brookreson is a native of Parma, received his preliminary education at the University of Missouri and his M.D. degree at the University of Missouri in 1963. He is in general practice.

James R. Cook, M.D., 2033 S. Delaware, Springfield, has become a member of Greene County Medical Society. Dr. Cook is a native of Boonville, received his preliminary education at Drury College and his M.D. degree at the University of Missouri in 1963. He specializes in anesthesiology.

Robert D. Etienne, M.D., 2753 Goodfellow, St. Louis, has become a member of St. Louis Medical Society. Dr. Etienne is a native of Port-au-Prince, Haiti, West Indies, received his preliminary education at Lycee Pinchinat, Jacmel, West Indies and his M.D. degree at Faculty of Medicine, Port-au-Prince, West Indies in 1949. He specializes in internal medicine.

David T. Hammond, M.D., 114 N. Taylor, St. Louis, has become a member of St. Louis Medical Society. Dr. Hammond is a native of Princeton, Ind., received his preliminary education at Indiana University and his M.D. degree at Washington University in 1960. He specializes in internal medicine.

Armando H. Moreano, M.D., 4301 Main St., Kansas City, has become a member of Jackson County Medical Society. Dr. Moreano is a native of Riobamba, Ecuador, received his preliminary education at Central University, Riobamba, Ecuador, and his M.D. degree at Faculty of Medicine, Guayazuil in 1958. He is in general practice.

Maria M. Nunez, M.D., 4119 Magnolia Ave., St. Louis, has become a member of St. Louis County Medical Society. Dr. Nunez is a native of La Uega, Dominican Republic, received her preliminary education at Normal Dr. Trujillo and her M.D. degree at the University of Santo Domingo in 1949. She specializes in pediatrics.

Henry D. Onken, M.D., 8639 Eulalic Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Onken is a native of St. Louis, received his preliminary education at Princeton University and his M.D. degree at Harvard University in 1957. He specializes in plastic surgery.

Reginald P. Pugh, M.D., 1008 Hickory Hill Dr., Columbia, has become a member of Boone County Medical Society. Dr. Pugh is a native of Windsor, Canada, received his preliminary education at the University of Michigan and his M.D. degree at the University of Michigan in 1955. He specializes in internal medicine.

Jose T. Reyes, M.D., 1755 S. Grand, St. Louis, has become a member of St. Louis Medical Society. Dr. Reyes is a native of Pangasinan, Philippines, received his preliminary education at the University of Santo Tomas and his M.D. degree at the University of Santo Tomas in 1954. He specializes in anesthesiology.

W. Lee Skimming, M.D., 8662 White Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Skimming is a native of Jamestown, Ohio, received his preliminary education at Denison University and his M.D. degree at Washington University in 1961. He specializes in orthopedic surgery.

Alberto A. Soto, M.D., 9621 Hale Ave., Affton, has become a member of St. Louis County Medical Society. Dr. Soto is a native of Santiago, Cuba, received his preliminary education at the Instituto de Santiago and his M.D. degree at Salamanea Medical School in 1959. He specializes in psychiatry.

Arch W. Templeton, M.D., 1201 Sunset Dr., Columbia, has become a member of Boone County Medical Society. Dr. Templeton is a native of Madison, Wisc., received his preliminary education at the University of Maha and the University of Wisconsin and his M.D. degree at the University of Nebraska in 1957. He specializes in radiology.

Joan L. Webb, M.D., 1306 Ridge Rd., Columbia, has become a member of Boone County Medical Society. Dr. Webb is a native of Pawhuska, Okla., received her preliminary education at Oklahoma State University and her M.D. degree at the University of Oklahoma in 1959. She specializes in psychiatry.

Paul C. Wheeler, M.D., 405 Thilly Ave., Columbia, has become a member of Boone County Medical Society. Dr. Wheeler is a native of Ellsworth, Maine, received his preliminary education at Southeast Missouri State College and his M.D. degree at the University of Missouri in 1960. He specializes in physical medicine.

In Memoriam

Heller, B. Marcus, M.D., Kansas City, a graduate of Royal College, 1938; member of Jackson County Medical Society; aged 54; died March 9, 1966.

Carbaugh, Glenn C., M.D., Kansas City, a graduate of Harvard University, 1920; member of Jackson County Medical Society; aged 73; died May 3, 1966.

Hunt, Lloyd H., M.D., Salem, a graduate of St. Louis University, 1926; member of Mid-Missouri County Medical Society; aged 66; died May 7, 1966.

Lawton, Thomas P., M.D., St. Louis, a graduate of St. Louis University, 1919; member of St. Louis Medical Society; aged 71; died May 13, 1966.

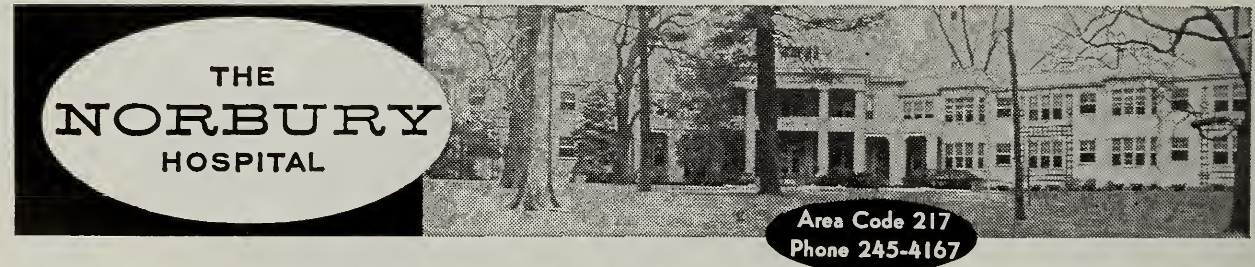
Wilson, Virgil R., M.D., Rosendale, a graduate of the University of Oklahoma, 1917; member of Andrew County Medical Society; aged 74; died May 17, 1966.

Warner, Robert G., M.D., St. Louis, a graduate of St. Louis University, 1924; member of St. Louis Medical Society; aged 67; died May 20, 1966.

Hobard, Carl A., M.D., St. Louis, a graduate of Washington University, 1909; member of St. Louis Medical Society; aged 83; died May 23, 1966.

Ramos, Raoul L., M.D., St. Louis, a graduate of Yale University, 1931; member of St. Louis Medical Society; aged 59; died May 24, 1966.

Summers, Jacob H., M.D., Lebanon, a graduate of Washington University, 1931; member of Mid-Missouri County Medical Society; aged 65; died June 17, 1966.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Corcoran, A. C.: The choice of drugs in the treatment of hypertension. In: Drugs of Choice 1966-67, W. Modell, Ed., St. Louis, C. V. Mosby Company, 1966, p. 417.

Indications: Diutensen-R may be employed in all grades of essential hypertension. **Dosages:** Usual dose is 1 tablet twice daily, at morning and evening meals. However, adjustment of dosage to suit individual circumstances may be required. Please refer to package insert for full particulars. **Side effects and precautions:** The side effects observed with patients on Diutensen-R have been of a mild and nonlimiting nature. These include occasional urinary frequency, nocturia, nasal congestion, muscle cramps, skin rash, joint pains due to gout symptoms and nausea and dizziness which have been reported for the individual components. Most of these symptoms disappear while the drug is continued at the same or lower dosage level. The concomitant use of digitalis and Diutensen-R may increase the possibility of digitalis-like intoxication. If there is evidence of myocardial irritability (extrasystoles, bigeminy or AV block), dosage of Diutensen-R should be reduced or discontinued. Nocturia in patients with marginal cardiac status and salt and fluid retention can be effectively controlled by limiting the time of administration to early afternoon. Diutensen-R should not be used in patients with a known intolerance to reserpine. Package inserts furnish a complete summary of recommended cautions related to each of the ingredients of Diutensen-R.

*As tannate salts equivalent to 130 Carotid Sinus Reflex Units.

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Missouri Medicine in Review

FORTY YEARS AGO

A commendable plan for the immediate relief of persons injured in disasters was adopted by the AMA at the recent Dallas meeting.—Dr. E. W. Cavaness, City Health Director of Kansas City, has appointed a committee from the medical staff of the General Hospital to investigate the adaptability of the Research Hospital as a connecting unit for the city institution.—The Bates County Medical Society held its regular monthly meeting at the Circuit Court Room in Butler on Thursday, July 29. For the first time in its history the Society invited the public to share the professional portion of the program. About 50 laymen attended, and numerous favorable comments have been made to different members of the Society by these guests.

The Laclede County Medical Society met in Lebanon, July 12, at the office of the Secretary, Dr. J. M. Billings. The meeting was called to order by the President, Dr. H. C. Hamilton. Members present were: Drs. Hamilton, Herbert, Lindsay, Scott, McComb and Billings.—Linn County Medical Society met at Brookfield, June 2, with the president, Dr. L. O. Home, in the chair. There were 18 physicians present, comprising nearly all the eligible physicians in the county.

TWENTY-FIVE YEARS AGO

There are in the United States at present about 179,000 physicians licensed to practice; there are approximately 145,000 physicians actually in practice. Each year there are graduated from the medical schools of the United States approximately 5,200 doctors. There are between 22,000 and 25,000 young men in the medical schools who are learning to be physicians.

The report of the Treasurer for the year 1940 was published in The Journal. It notes the sum of $3,381.00 outstanding in delinquent dues. This is $1,070.00 less than the report of the previous year.

1941 Legislation: House Bill No. 193. Prohibiting the use by any person licensed to practice medicine, surgery, dentistry, optometry, osteopathy, chiropractic, chiropody or veterinary surgery, or any two or more of such professions, and any person permitted to practice the curing, healing or remedying of ailments, defects of diseases of body or mind, from using the prefix "Doctor" or "Drs." in connection with his name in any letter, business card, advertisement, prescription blank, sign or public listing without affixing thereto suitable words or letters designating the degree held.

TEN YEARS AGO

Dr. Victor Buhler, immediate Past President of the State Medical Association, addressed the third year medical class of the University of Missouri on May 8. He spoke on the topic, "Medical Ethics."—Among 317 physicians certified recently by the American Board of Obstetrics and Gynecology were Samuel A. Montello, M.D., Kansas City; Richard I. Muckerman, M.D., St. Louis; Wallace R. Stacey, M.D., Independence and Charles E. Sutton, M.D., Cape Girardeau. —A gold watch and plaque were presented to J. T. Leslie, M.D., Jefferson City, by the Cole County Medical Society at a dinner given for him in recognition of his 50 years in the practice of medicine.

One of 25 members of the Hodgen Surgical Club, Avery P. Rowlette, M.D., Moberly, attended a meeting of the club in New York recently.—A medal was presented to Albert Preston, Jr., M.D., Kansas City, by Bishop Edward R. Welles in recognition of his contributive work in the Episcopal Church.—The Cape Girardeau *Southeast Missourian* on May 10 carried an article and picture of C. B. Farrar, M.D., Flat River, on the beginning of his second half century of practice.

Officers of the Missouri chapter of the American College of Surgeons recently elected are John J. Modlin, M.D., Columbia, president; W. A. Bloom, M.D., Fayette, vice president, and James M. Baker, M.D., Columbia, secretary-treasurer.

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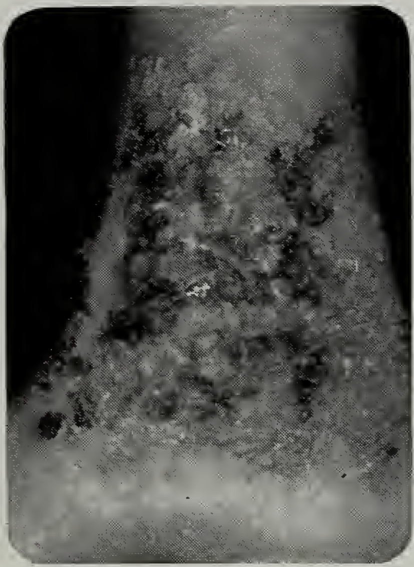
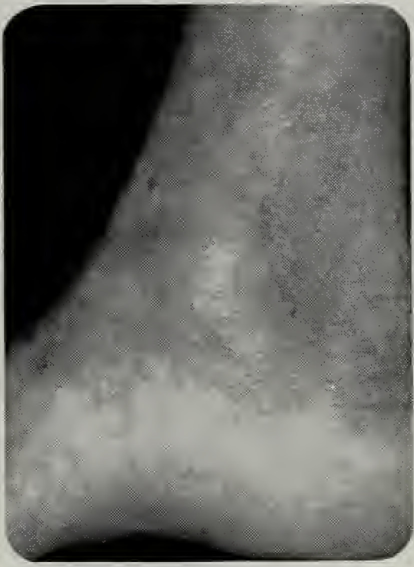


Before treatment



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Contraindications: Tuberculosis of the skin, herpes simplex, chicken pox and vaccinia.

Precautions and Side Effects: Do not use in the eyes or in the ear (if drum is perforated). A few individuals react unfavorably under certain conditions. If side effects are encountered, the drug should be discontinued and appropriate measures taken. Use on infected areas should be attended with caution and observation, bearing in mind the potential spreading of infection and the advisability of discontinuing therapy and/or initiating antibacterial measures. Generalized dermatological conditions may require systemic corticosteroid therapy. Steroid therapy, although responsible for remissions of dermatoses, especially of allergic origin cannot be expected to prevent recurrence. The use over extensive body areas, with or without occlusive nonpermeable dressings, may result in systemic absorption. Appropriate precautions should be taken. When occlusive nonpermeable dressings are used, miliaria, folliculitis and pyodermas will sometimes develop. Localized atrophy and striae have been reported with the use of steroids by the occlusive technique. When occlusive nonpermeable dressings are used, the physician should be aware of the hazards of suffocation and flammability. The safety of use on pregnant patients has not been firmly established. Thus, do not use in large amounts or for long periods of time on pregnant patients.

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Component Societies in Affiliation With the Missouri State Medical Association

County	District	President	Address	Secretary	Address
Andrew	1	V. R. Wilson	Rosendale	Warren C. Baker	Savannah
Audrain	5	Leonard L. Davis	Mexico	Thomas L. Dwyer	Mexico
Barton-Dade	8	Herbert M. Arnold	Lamar	Alvin R. Cain	Lamar
Benton	6			James A. Logan	Warsaw
Boone	5	C. Thorpe Ray	Columbia	David G. Hall	Columbia
Buchanan	1	William Redmond	St. Joseph	John Mothershead	St. Joseph
Butler-Wayne-Ripley	10	William Robertson	Poplar Bluff	Ernest M. Tapp	Poplar Bluff
Callaway	5	George Wood	Fulton	Katherine Brown	Fulton
Cape Girardeau	10	T. A. Lovinggood	Cape Girardeau	Wendell K. Stewart	Cape Girardeau
Carter-Shannon	9				
Chariton-Macon-Monroe-Randolph	2	Floyd A. Barnett	Paris	Robert Hasson	Moberly
Clay	1	Dean F. Werner	N. Kansas City	F. C. Werner	Kansas City
Clinton	1	W. B. Spalding	Plattsburg	J. P. Mabrey	Plattsburg
Cole	5	Robert E. Bregant	Jefferson City	James Gordon	Jefferson City
Cooper	5	Bernard Draper	Boonville	D. Hata	Boonville
Dallas-Hickory-Polk	8	Ben Koon	Bolivar	Evelyn Griffin	Buffalo
Dunklin	10			Quinton Tarver	Kennett
Franklin-Gasconade-Warren	4	George Richardson	Union	Robert Moellenhoff	Washington
Grand River Medical Society (Caldwell-Livingston-Carroll-Grundy-Daviess-Harrison-Linn-Mercer-DeKalb)	1	Joseph Gale	Chillicothe	Albert D. Cross	Trenton
Greene	8	William F. Johnson	Springfield	Ernest Lorenc	Springfield
Henry	6	Hugh Walker	Clinton	R. S. Hollingsworth	Clinton
Howard	5			F. D. Dean	Fayette
Jackson	7	Harry Statland	Kansas City	Wallace P. McKee	Kansas City
Jasper	8	Harry K. Wieman	Joplin	David Allen	Joplin
Jefferson	4	Karl V. McKinstry	DeSoto	J. L. Mayfield	Crystal City
Johnson	6	R. Lee Cooper	Warrensburg	Charles Lederer	Warrensburg
Lafayette-Ray	6	Charles T. Riley	Richmond	Wayne Boydston	Odessa
Lewis-Clark-Scotland	2	Earl E. Gilfillan	Memphis	Landis Y. Davis	Canton
Lincoln-St. Charles	4	Robert J. Fleming	St. Charles	G. A. Yaeger	St. Charles
Marion-Ralls-Shelby	2	Thomas Fischer	Hannibal	John F. Clisham	Hannibal
Mid-Missouri County Medical Society (Phelps-Crawford-Dent-Pulaski-Maries-Laclede)	9	William R. Lytle	Rolla	Barbara Russell	Rolla
Miller	5			Carl Buehler	Eldon
Mineral Area County Medical Society (St. Francois-Iron-Madison-Washington-Reynolds)	10	C. W. Chastain	Farmington	Jose Jimenez	Farmington
Moniteau	5	K. S. Latham	California	L. M. Gallagher	California
Montgomery	5	E. J. T. Andersen	Montgomery City	S. J. Byland	Wellsville
Morgan	5	J. L. Washburn	Versailles	Ray Lyle	Versailles
North Central Counties Medical Society (Adair-Schuyler-Knox-Sullivan-Putnam)	2	Robert W. Buben	Kirksville	Mark M. Tendai	Kirksville
Northwest Missouri Medical Society (Nodaway-Holt-Atchison-Gentry-Worth)	1	Benjamin F. Byland	Maryville	Frank Matteson	Grant City
Ozarks Medical Society (Barry-Lawrence-Stone-Christian-Taney-Newton-McDonald)	8	Roy E. Kenney	Neosho	Charles Spears	Branson
Pemiscot	10			J. W. Bernard	Caruthersville
Perry-Ste. Genevieve	10	Joseph Lutkewitte	Ste. Genevieve	Stanley Legner	Perryville
Pettis	6	E. M. Braverman	Sedalia	Donald Eldenberg	Sedalia
Pike	2			L. G. Stuerman	Louisiana
Platte	1	I. W. Kimball	Kansas City	S. Lloyd Allen	Kansas City
St. Louis City	3	George L. Hawkins	St. Louis	Charles B. Ladd	St. Louis
St. Louis County	4	C. Howe Eller	St. Louis	Miles C. Whitener	St. Louis
Saline	6	C. A. McBurney	Slater	Richard F. Aiken	Marshall
Semo County Medical Society (Stoddard-New Madrid-Scott-Mississippi)	10	John Demoncourt	Charleston	Thelma C. Buckthorpe	Sikeston
South Central Counties Medical Society (Howell-Oregon-Texas-Wright-Douglas-Ozark)	9	C. Franklin Smith	Willow Springs	Rollin H. Smith	West Plains
Webster	8	T. M. Macdonnell	Marshfield	R. J. Bareis	Marshfield
West Central Missouri Medical Society (Bates-Cass-Cedar-St. Clair-Vernon)	6	Robert Magee	El Dorado Springs	Roy W. Pearse, Jr.	Nevada

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Information for Contributors

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Illustrations should be glossy prints or drawings in India ink on white paper. They should not be mounted and name of author and figure number should be penciled lightly on the backs. Legends should appear on a separate sheet. Colored illustrations will be used when suitable if author assumes the actual cost.

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Availability: Bottles of 100 and 1000 tablets.

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Individual Responsibility Concept Approved

Federal health legislation, physicians' billing procedures, medical ethics, racial discrimination, health manpower and an increase in AMA dues were among the major subjects acted upon by the House of Delegates at the American Medical Association's 115th Annual Convention held June 26-30 in Chicago. MSMA was officially represented by: AMA Delegates Durward G. Hall, J. Loren Washburn, Arthur W. Neilson and Richard H. Kiene; Alternate Delegates Thompson E. Potter, Robert Kelley and Hugh E. Stephenson; President Byron M. Stuart; President-Elect Hector W. Benoit; and Immediate Past President Paul R. Whitener. A number of other MSMA officers and members were among the 12,445 physicians who registered for the meeting.

The House received and considered a large number of reports and resolutions dealing with Medicare, Title 19 and other federal laws or programs. The report of the Board of Trustees on Medicare, which was accepted by the House with commendation, pointed out that "during the past year many individuals have represented the American Medical Association and the physicians of the United States by meeting frequently with officials of the Department of Health, Education and Welfare. This degree of cooperation on our part should be viewed as a recognition by responsible citizens of an obligation to obey the law of the land, including this law with which we disagree."

The Trustees' report also noted that through the work and discussions of AMA representatives government officials had agreed to simplify some of the proposed Medicare forms, eliminate others and to incorporate other AMA suggestions in the final regulations and procedures.

The House strongly endorsed the general concept of "individual responsibility" for guiding physicians in their professional practices under Medicare. It also adopted three resolutions recommending that physicians use the direct billing method rather than the "assignment" procedure in seeking reimbursement for services rendered to Medicare patients.

Support for hospital-based specialists who are fighting to retain their right to bill separately for their professional services came in two resolutions. One of them endorsed the principle of separate billing and then declared it "unethical for a physician to displace a hospital-based physician who is attempting to practice separate billing when said displacement is primarily designed to circumvent separate billing."

The 1963 position statement relating to physician ownership of establishments which dispense drugs, remedies, appliances or eyeglasses was reaffirmed. A physician may ethically enter into such an arrangement if "it is in the best interest of the patient" and not "solely for his convenience or for the purpose of supplementing his income." Local medical societies and state associations were admonished to "vigorously" process complaints of alleged deviations from this standard.

The House noted that it is already on record as being strongly opposed to discrimination against physicians who may be seeking membership in local medical societies. It directed the Council on Constitution and By-Laws to draft a mechanism through which physicians who are denied membership may appeal directly to the AMA.

After some heated debate, the House by a vote of 168 to 46 approved an increase in AMA dues from the present $45 to $70, effective January 1, 1967. Delegates from New York and New Jersey expressed vigorous opposition to the increase. Missouri delegates were preparing to speak against it when a parliamentary move brought the issue to a vote.

The dues increase was recommended by the Board of Trustees. Board members said that the various AMA programs which are necessary to serve the needs of the Association's members cannot be conducted effectively without adequate financing, and adequate financing is impossible without a dues increase.

Mr. Milford O. Rouse of Dallas, Texas, who had served as Speaker of the House for the past three years was named President-Elect. Next year he will succeed Dr. Charles L. Hudson of Cleveland, Ohio who took office during the Chicago convention.

Fuller details of the 115th Annual Convention may be found in the July 18 issue of *The Journal of the American Medical Association* and in the July 4 and July 11 issues of *The AMA News*.

medical melange

Notes of interest from Here . . . . and There

Richard H. Kiene, M.D., Kansas City orthopedic surgeon and AMA Delegate from Missouri, has been promoted to the rank of Rear Admiral in the Medical Corps of the U. S. Naval Reserve. He served during World War II with U. S. naval forces in the South Pacific and has remained active in the Reserve since then. Doctor Kiene is one of only three medical officers in the country to be selected for promotion to the rank of Rear Admiral. . . . **Herbert D. Domke**, M.D., has been named Director of Health and Hospitals for St. Louis, succeeding Dr. **Frank P. Gilmore** who resigned at the end of last year. Doctor Domke comes to St. Louis from Pittsburgh, Pennsylvania, where he served as Director of the Allegheny County Health Department.

The Life Insurance Medical Research Fund will award more than $1.5-million in scientific grants and fellowships during the coming year. Among the 58 research projects which have been selected to receive grants are three at Washington University in St. Louis. The three project directors and their projects are: Dr. Duane S. Hellam, membrane voltage-contraction relationship in voltage-clamped cardiac Purkinje fibers; Dr. Gerald T. Perkoff, mechanism of alcohol induced phosphorylase deficiency of muscle; Dr. Irwin Schultz, virologic study of recurrent pericarditis.

A new film showing the development, validation and use of a scale for the quantitative measurement of depression has been made available to the profession. The scale was designed by Dr. William W. K. Zung, Durham, North Carolina, psychiatrist, primarily for use in psychiatric research. It reportedly lends itself, however, to the general practice of medicine; and is available for hospital staff, local medical society or specialty groups showings. The film, "The Measurement of Depression," may be obtained upon request from Lakeside Laboratories, Inc., Milwaukee, Wisconsin 53201.

Eli Lilly and Company has developed a system for printing a code on each Lilly capsule and tablet that quickly and positively identifies the product and its exact formula. The new system, called Identi-Code™, consists of a combination of one letter and two figures which specify the form of the medication and its name and formula when reference is made to a Lilly code index. The code booklet is being distributed to physicians, dentists, pharmacists, nurses, law enforcement agents, poison-control experts and others who deal with medical emergencies. The new system will prove invaluable in cases of accidental overdosages, in preventing errors in medication and for identifying medication when the prescription is lost or misplaced.

Deaths from burn wounds have been reduced by 50% through the topical use of Sulfamylon and have been almost completely eliminated when 40% or less of the body area is burned, a team of military physicians reports after a two-year study. Writing in *Archives of Surgery* (92:558, 1966), they credit the drug with successfully combatting burn wound infection, the principal cause of death. The major organism responsible for infection in burn victims is *pseudomonas aeruginosa,* a virulent gram-negative pathogen that has proven especially difficult to control with drugs, according to Colonels John A. Moncrief and Robert B. Lindberg, Lt. Col. Walter E. Switzer and Major Basil A. Pruitt, Jr., who are attached to Fort Sam Houston, Texas.

AMERICAN ASSOCIATION OF MEDICAL ASSISTANTS

10th Annual Convention

October 19-23, 1966 **Chase-Park Plaza Hotel, St. Louis**

Wednesday, October 19

1:00 PM House of Delegates meeting.
2:00 PM Reference Committee meetings.
3:30 PM Reports of Officers and Committees.
4:30 PM Miscellaneous business and resolutions.

Thursday, October 20

7:00 AM Delegates Breakfast (Courtesy Missouri State Medical Association).
8:00 AM House of Delegates meeting.
12:30 PM Delegates Luncheon.
2:00 PM House of Delegates meeting.

Friday, October 21

8:30 AM General Session—Marge Slaymaker, President, presiding.
Welcome.
Pearl Neal, President, Missouri State Medical Secretaries and Assistants Society.
J. Earl Smith, M.D., St. Louis Health Commissioner.
Byron M. Stuart, M.D., President, Missouri State Medical Association.
Response.
Elvera Fischer, President-Elect, AAMA.
President's Address.

10:00 AM Educational Symposium:
The Role of the Medical Assistant in Medicare and Drug Abuse Law. (Sponsored by Wyeth Laboratories)

12:30 PM Luncheon honoring AMA President and AAMA Past Presidents.
Address by Charles L. Hudson, M.D., President, American Medical Association.

2:30 PM Educational Workshops.
1. *Parliamentary Procedures and Protocol.*
2. *Duties of Officers; Effective Committee Work; Membership Recruitment and Maintenance.*
3. *Purposes and Goals of County, State and National Association; Leadership Traits and Skills.*

Saturday, October 22

8:30 AM General Session.
10:00 AM Educational Program.
1. *Interpersonal Communications.*
2. *"Mirror, Mirror, on the Wall."*

12:30 PM Awards Luncheon.
2:30 PM Educational Workshops.
(Repeat and extension of Friday session.)
7:00 PM Installation Banquet.

Sunday, October 23

9:00 AM General Session Breakfast—Elvera Fischer, President, presiding.
Summary of proceedings of House of Delegates.
Announcement of 1966-67 Committee appointments.
Announcement of 1968 convention and program chairmen.
Adjournment.

Convention registrations are now being accepted.

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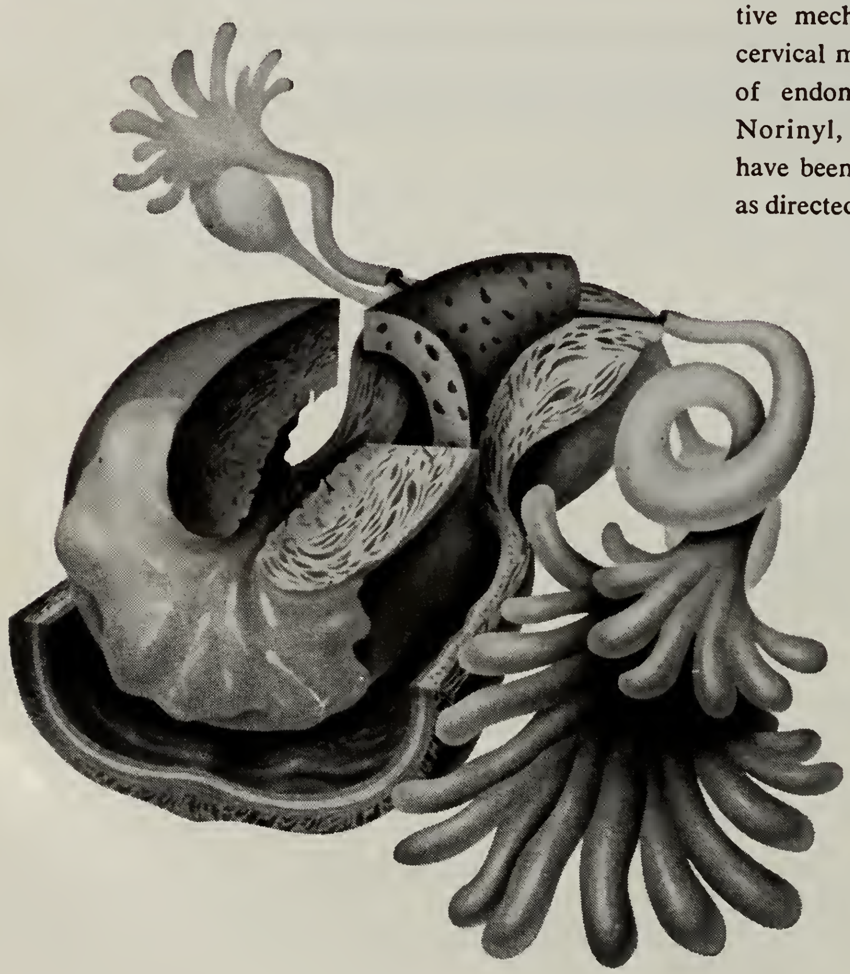
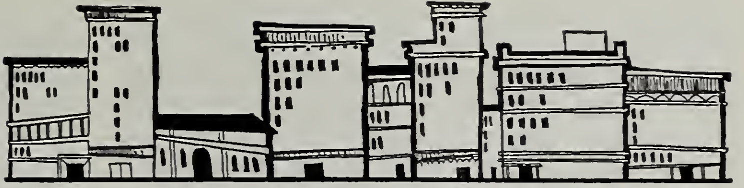


From the Medical Schools



ST. LOUIS UNIVERSITY

Dr. Maurice Green, Director of the Molecular Virology Institute, and Dr. Kei Fujinaga, investigator at the Institute, recently reported "unequivocal evidence" linking a human virus, adenovirus type 12, with tumorous and transformed animal cells grown in tissue culture. Their findings were published in the Proceedings of the National Academy of Sciences. Their research is supported by the National Institute of Allergy and Infectious Diseases.

Postgraduate psychiatric education for physicians will be offered by the Department of Neurology and Psychiatry during the academic year beginning in September. Dr. Arnold S. Block, Assistant Professor of Neurology and Psychiatry, is course director. The series of courses and seminars is acceptable for accredited hours by the American Academy of General Practice. Courses scheduled for six Tuesday evenings beginning September 20 include General Psychiatric Problems in Medical Practice, Sexual and Marital Problems and Counseling, and Emotional Problems in Obstetrical and Gynecological Patients. Additional information may be had by contacting Dr. Block.

Fifteen faculty members received appointments at the School of Medicine in July.

Named Associate Professor of Pathology and Assistant Professor of Microbiology was Dr. Laurence B. Senterfit, formerly a research scientist at Charles Pfizer and Co. Appointed Associate Professor of Anatomy was Dr. John J. Taylor, formerly Associate Professor of Anatomy, University of North Dakota School of Medicine.

Named Assistant Professors were Dr. Jean G. M. Bossy and Dr. Joseph R. Suriano. Dr. Bossy, formerly a Professor of Histology and Embryology at Elisabethville (Congo), joined the Anatomy Department. Dr. Suriano was instructor in bacteriology at the University of Vermont College of Medicine.

Three new Assistant Professors were named in the Department of Neurology and Psychiatry. They are Dr. Mary McFayden Bishop, formerly associate clinical director of the division of adult psychiatry at Jewish Hospital; Dr. John S. Schengber, formerly a staff psychiatrist at San Diego County Hospital, and Dr. Moisy Shopper, formerly an instructor in psychiatric education at the State University New York College of Medicine.

Three new instructors were added to the Department of Gynecology and Obstetrics. They were Dr. Patrick J. Clark and Dr. Manuel R. Comas, both of whom completed their residency at Jackson Memorial Hospital in Miami, and Dr. Krishna Binod Singh, who recently received the M.S. degree in anatomy from Kansas University.

Named instructors in radiology were Dr. William E. Allen and Dr. Orhan Metin Ozmat.

Dr. Gerald J. Dominque was named instructor in microbiology and Dr. Leon D. Prokop was appointed instructor in physiology. Dr. Jack Ging Lun Jue, a recent St. Louis University graduate, was named instructor in pharmacology.

Dr. Robert E. Olson, Professor of Biochemistry and Chairman of the Department at the School of Medicine, presented two papers at international meetings held in Europe. He gave a paper at a symposium in Copenhagen July 29 which honored Dr. Henrik Dam, who is retiring as Chairman of the Department of Biochemistry. Dr. Dam was co-winner of the Nobel Prize in Medicine with Dr. Edward A. Doisy, Sr., Director Emeritus, Department of Biochemistry. He also addressed the Seventh International Congress of Nutrition in Hamburg, Germany, August 4.

WASHINGTON UNIVERSITY

Washington University School of Medicine has been awarded a $1.8 million grant from the U. S. Public Health Service for initiating a multifaceted research project on the stroke. Dr. James O'Leary, Professor and Head of the Department of Neurology, will direct the project. Associate Directors will be Dr. Henry G. Schwartz, Professor of Neurosurgery and Acting Head of the Department of Surgery, and Dr. Juan Taveras, Professor and Head of the Department of Radiology. Projects will include refinement of angiography, estimation of blood flow through the brain, evaluating of temperature changes in the brain and improvement of electroencephalography as a diagnostic device for strokes. In the second stage of the project studies on thrombolysis will be incorporated. A large scale epidemiological study on factors predisposing to strokes would also be conducted. An intensive care for patients hospitalized as a result of strokes will be established in the second year of the program in cooperation with Barnes Hospital. The unit will be a part of the now existing intensive care unit for neurosurgical patients providing a total of 15 beds for the two disorders. The final step in the project will be the development of a research unit on rehabilitation techniques for the stroke victim. The Irene Walter Johnson Institute of Rehabilitation will be the focal point for this part of the project.

Dr. C. Read Boles, St. Louis pediatrician, has been named President-Elect of the Washington University Medical Alumni Association. Dr. C. Alan McAfee, St. Louis surgeon, will serve as President during 1966-67. Elected Vice President of the group was Dr. Guy Magness, University City. Dr. Richard Hudgens, Assistant Professor of Psychiatry at the School of Medicine, was named Secretary-Treasurer. New members of the alumni council are: Drs. Hyman Senturia, William Juergens and Charles Hogenkamp, all of St. Louis; Robert Anschuetz, Alton, Illinois; James W. Owen, Bartlesville, Oklahoma; Charles Lockhart, Springfield, Missouri; Major Gen. Kenneth E. Pletcher, Omaha, Nebraska, and Samuel Martin, Gainesville, Florida.

Dr. Neal Bricker, Professor of Medicine, has been named President pro-tem of a new scientific society whose goal is dissemination of information on the kidney. He will serve as the presiding officer of the American Nephrology Society, whose membership will include pediatricians, immunologists, internists and those whose primary concern is in dialysis and transplantation.

UNIVERSITY OF MISSOURI

The U. S. Public Health Service has granted the University of Missouri $834,915 to complete construction of the Medical Center. The grant increases to approximately $1.5 million funds available to add three stories to the Medical Sciences Building and five stories to the north-south research wing to bring them into height con-

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formity with other seven-story structures of the Medical Center. Dr. Vernon E. Wilson, Dean, said he will be consulting with architects in hopes of making an early start on construction so the project can be completed for the 1968-69 school year. When construction is completed the School can expand its entering class from the present 85 to the planned maximum of 100 and can admit an additional 50 graduate students seeking master's and doctor's degrees in basic sciences.

Dr. Joan L. Webb, Assistant Professor of Psychiatry, has been awarded a two-year career teacher grant for $35,898 from the National Institute of Mental Health (NIMH) of the U. S. Public Health Service. Career teacher grants are offered by the NIMH to help meet the continuing needs for outstanding teachers in the field of mental health. In her grant-supported training, Dr. Webb will assume increased responsibility in teaching resident physicians and third and fourth year medical students as well as take advanced course work in related fields including community health, psychology and sociology. She also will serve as Assistant Director of the Psychiatric Inpatient Service, conduct research, and participate in supervised advanced clinical work.

Dr. Robert L. Jackson, Professor and Chairman of the Department of Pediatrics, has been awarded a $40,450 grant by the National Institute of Arthritis and Metabolic Diseases. Funds from the grant will be used to continue research and a teaching program concerned with the control of diabetics and other endocrine disturbances in children. The grant will provide fellowships for four medical students with a special interest in these problems and two pediatricians who will be engaged in research in this area. Dr. Constantine S. Anast, Associate Professor of Pediatrics, is co-director of the continuing program.

Scientists at the University will continue into the fourth year a seven-year study of therapeutic factors in hemophilia-like diseases under renewal of a grant of $35,861 by the Public Health Service to Dr. Merle E. Muhrer, Professor and Chairman of the Agricultural Chemistry Department. The experiments are conducted on the University's herd of swine infected with the disease. Earlier experiments have indicated that injected plasma or serum can stimulate natural production of missing factors that cause the "bleeding disease."

coming events

Sept. 16-17	**Neurological Problems in Office Practice** Continuing Education, M.U. School of Medicine Medical Center, Columbia
Sept. 24	**American College of Physicians Regional Conference** General Hospital, Kansas City
Sept. 25	**Symposium: Respiratory Diseases and Relationship of Air Pollution to Health** St. Louis Academy of General Practice; Tuberculosis and Health Society of St. Louis Colony Motor Hotel, Clayton (acceptable 4 hours, AAGP credit)
Oct. 3-5	**Kansas City Southwest Clinical Society Annual Fall Conference** Hotel Muehlebach, Kansas City (acceptable 19 hours, AAGP credit)
Oct. 14-15	**Soft Tissue Trauma** Continuing Education, M.U. School of Medicine Medical Center, Columbia
Nov. 4-5	**M.D. Day** Continuing Education, M.U. School of Medicine Medical Center, Columbia
Dec. 7-8	**Current Concepts in Arthritis** Continuing Education, M.U. School of Medicine Medical Center, Columbia

New Members

Windsor B. Atcheson, M.D., Princeton, has become a member of Grand River County Medical Society. Dr. Atcheson is a native of Columbus, Ohio, received his preliminary education at the University of Denver and his M.D. degree at the University of Colorado in 1962. He is in general practice.

Thomas R. Cate, M.D., 660 S. Euclid Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Cate is a native of Nashville, Tenn., received his preliminary education at Vanderbilt University and his M.D. degree at Vanderbilt in 1959. He specializes in internal medicine.

James H. Chapman, M.D., 4949 Rockhill, Kansas City, has become a member of Jackson County Medical Society. Dr. Chapman is a native of Omaha, Neb., received his preliminary education at the University of Nebraska and his M.D. degree at the University of Tennessee in 1963. He specializes in radiology.

Milo M. Farnham, M.D., 1612 W. Truman, Independence, has become a member of Jackson County Medical Society. Dr. Farnham is a native of St. Joseph, received his preliminary education at the University of Kansas and his M.D. degree at the University of Iowa in 1962. He specializes in internal medicine.

Charles E. Gilliland, M.D., Cameron, has become a member of Grand River County Medical Society. Dr. Gilliland is a native of Excelsior Springs, received his preliminary education at the University of Texas and his M.D. degree at the University of Kansas in 1911. He specializes in internal medicine.

Robert T. Littlejohn, M.D., Professional Building, Kansas City, has become a member of Jackson County Medical Society. Dr. Littlejohn is a native of Higginsville, received his preliminary education at the University of Missouri and his M.D. degree at the University of Texas in 1961. He specializes in orthopedics.

John P. Morse, M.D., 6306 Morningside Dr., Kansas City, has become a member of Jackson County Medical Society. Dr. Morse is a native of St. Joseph, received his preliminary education at Westminster College and his M.D. degree at the University of New Orleans in 1961. He specializes in orthopedics.

Edward Ragsdale, M.D., 510 S. Kingshighway, St. Louis, has become a member of St. Louis Medical Society. Dr. Ragsdale is a native of Omaha, Neb., received his preliminary education at the University of Nebraska and his M.D. degree at the University of Tennessee in 1963.

C. Robert Schmidt, M.D., 2316 E. Meyer Blvd., Kansas City, has become a member of Jackson County Medical Society. Dr. Schmidt is a native of St. Louis, received his preliminary education at Westminster College and his M.D. degree at the University of Tennessee in 1960. He specializes in anesthesiology.

Leonardo C. Virgil, M.D., 4706 Broadway, Kansas City, has become a member of Jackson County Medical Society. Dr. Virgil is a native of Philippine Islands, received his preliminary education at Santo Tomas University and his M.D. degree at Santo Tomas in 1952. He specializes in internal medicine.

Grey M. Woodman, M.D., 2200 McCoy St., Kansas City, has become a member of Jackson County Medical Society. Dr. Woodman is a native of Birmingham, England, received his preliminary education at Oxford University and his M.D. degree at Oxford in 1950. He specializes in psychiatry.

Joe H. Yang, M.D., 3940 Ritz Ct., St. Louis, has become a member of St. Louis Medical Society. Dr. Yang is a native of Seoul, Korea, received his preliminary education at Kyung Kee School and his M.D. degree at Severance Union Medical College, Seoul, Korea in 1945. He is in general practice.

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JOHN H. LANDOR, M.D., *Columbia*

Clinical Experience With Hypertrophic Pyloric Stenosis

Although Patrick Blair in 1717 described finding a "cartilaginous pylorus" at autopsy in an emaciated five month old child, it was not until a century and a half later (1887) that Hirschsprung accurately described the pathologic findings in hypertrophic pyloric stenosis. A wide variety of surgical procedures designed to relieve the pyloric obstruction was described in the late 19th and early 20th centuries, culminating in the report of submucous pyloroplasty by Fredet in 1907 and the description of pyloromyotomy, as we know it today, by Ramstedt in 1912.[1] The Fredet-Ramstedt operation rapidly gained widespread acceptance as the procedure of choice in the surgical management of this condition because of its dramatic effectiveness and ease of performance, as well as because of the low morbidity and mortality associated with it. Despite the fact that there is enthusiasm for medical management in some centers in Europe, trials of non-operative treatment in this country have yielded results which are generally inferior to those obtained with pyloromyotomy.[2]

Numerous large groups of patients with hypertrophic pyloric stenosis treated by pyloromyotomy have been reported, as in the recent series of Benson,[3] Donovan[4] and Prosser[5] with 1,119, 1,117 and 281 cases respectively. Postoperative complications are virtually unknown, and surgical mortality is one percent or less in these reports of patients seen in large children's centers and cared for by pediatric surgical services. It was felt that it would be of interest to review our experience with hypertrophic pyloric stenosis at the University of Missouri Medical Center where pediatric surgical problems are less frequently seen and where operations are carried out by general surgeons rather than by surgeons with primary interest in the field of pediatric surgery.

Clinical Review

The hospital records of 39 patients with hypertrophic pyloric stenosis seen during the nine years between October 1956, when the University of Missouri Medical Center opened, and October 1965 were available for review. There were 27 males and 12 females. This ratio of 2.3 to 1 is somewhat lower than the usual 4 or 5

A review of experience at the University of Missouri Medical Center with 39 infants who had hypertrophic pyloric stenosis. All patients were treated surgically with no postoperative complications or deaths. The authors conclude that delay in establishing the diagnosis can produce prolongation in postoperative hospital stays; marked delay can result in unnecessary death. Doctor Alcancia is a resident in Surgery and Doctor Landor is Associate Professor of Surgery, University of Missouri School of Medicine.

to 1 observed in other series. Ten of 11 first-born infants were males. All of the patients were white despite the fact that Negroes account for approximately 25% of pediatric admissions in this hospital. There was only one associated congenital anomaly, a unilateral microcornea with cataract. A history of hypertrophic pyloric stenosis occurring previously in the family was obtained in two instances.

Onset of symptoms ranged from the early newborn period to as late as seven weeks, but 79.5% of the patients began having symptoms before the end of the fourth week (Table 1). In 27 of the 39 patients it was possible to determine the duration of symptoms prior to the time medical advice was sought by the parents. This period of time averaged eight days. The physician observed and treated these infants for an average period of 6.4 days before referring them to the Medical Center. Definitive operation was carried out, on the average, two days after admission. Thus, the mean interval of time between onset of symptoms and surgical intervention was 16.4 days.

Symptoms were almost invariably those that are classically associated with hypertrophic pyloric stenosis. Typically, occasional regurgitation of small amounts of milk or formula was noted first. Vomiting gradually occurred more frequently and was more voluminous, and eventually the baby had projectile vomiting of the entire contents of each feeding. Bile was absent from the emesis in all instances where observations regarding the character of the emesis were recorded.

All patients were admitted to the pediatric service and surgical consultation was requested as soon as obstruction of the gastrointestinal tract was suspected. Overall management was a cooperative effort of the pediatric and surgical services. The diagnosis was based to a large extent on the typical history, the observation of gastric peristaltic waves and projectile vomiting after feeding, and on the palpation of a typical pyloric tumor or "olive" in the upper abdomen just to the right of the midline. This pyloric mass was felt by one or more examining physicians in 34 patients at the time of admission, and was eventually palpated in all but one patient prior to operation. Roentgenologic examination was obtained in 12 patients (30.8%), but contrast media were used in only five of these examinations. The presence of a stomach dilated with air and absence or paucity of gas beyond the stomach were common findings on plain films, while obstruction at the pylorus with or without demonstration of an elongated narrow pyloric channel was seen when contrast media were used. X-ray examination was helpful in establishing the diagnosis in cases where the pyloric tumor could not be felt initially.

When the diagnosis was established or strongly suspected, surgical intervention was planned on an urgent but not an emergent basis, the operation seldom being performed on the day of admission. The time between admission and operation was utilized in achieving satisfactory hydration and correction of electrolyte abnormalities by means of appropriate intravenous fluids. All operations were carried out under general anesthesia and were performed by members of the surgical faculty (18 patients) or by residents (21 patients) with faculty supervision. Right paramedian or transverse incisions were used, depending on the individual surgeon's preference, and a standard pyloromyotomy was carried out. The mucosa was perforated inadvertently at the distal end of the pyloromyotomy incision a total of ten times (25.6%). This was recognized in each instance, and the defect was closed with a few interrupted sutures. Sometimes omentum was sutured over the area to reinforce the closure.

The initial feeding was given from five to 96 hours after operation, usually beginning with small amounts of dextrose in water and progressing to a normal formula diet within two to three days. Factors which led to a decision to defer feeding beyond the first 24 hours postoperatively were variable, but the most common reason for delay in cases of known perforation was the desire to allow the duodenal closure to "seal off" before challenging mucosal integrity with ingested liquids. Regurgitation of portions of feedings was not uncommon in the early postoperative period, but this rarely lasted more

TABLE 1

AGE AT ONSET OF VOMITING IN 39 PATIENTS WITH HYPERTROPHIC PYLORIC STENOSIS

Time of Onset of Symptoms	*1st Week*	*2nd Week*	*3rd Week*	*4th Week*	*5th Week*	*6th Week*	*7th Week*
Number of patients	5	8	9	9	4	2	2

than a few days. Complications were entirely absent and there were no deaths. Postoperative stay in the hospital varied between two and 14 days, and this correlated directly with duration of symptoms prior to surgery. In Fig. 1 it can be seen that those infants with symptoms for less than six days had an average postoperative hospitalization of 4.75 days, whereas those with symptoms for 16 or more days remained in the hospital for an average of 9.3 days after operation.

DISCUSSION

The fact that there were no morbidity and no mortality illustrates again that surgical treatment by means of pyloromyotomy is a quick, safe and effective method to reverse the downhill course and to restore a state of normalcy in infants with hypertrophic pyloric stenosis. We feel that these satisfying results were achieved as the result of a team effort involving pediatricians, interested general surgeons and capable experienced anesthesiologists. The importance of proper preoperative preparation and the skillful administration of anesthesia can not be overemphasized, for many of these babies were emaciated and critically ill when they entered the hospital. It must be admitted also, that the tenacity with which infants cling to life and their ability to surmount apparently overwhelming odds often defy the imagination.

Our incidence of accidental perforation of the mucosa during the performance of pyloromyotomy is much higher than that usually reported.[3-5] This is due undoubtedly to the fact that these operations were performed by 17 different surgeons, the majority of whom were still in residency training. The fact that there were no untoward sequelae of perforation supports the widely held belief that this surgical error is of no consequence when it is recognized and appropriately corrected. In looking for unsuspected perforations we have made it a practice to ask the anesthesiologist to inject air through the nasogastric tube into the stomach. The air is then massaged through the pyloric area while the pyloromyotomy incision is submerged in physiological saline. If bubbles appear during the maneuver, a diligent search for the defect in the mucosa is in order.

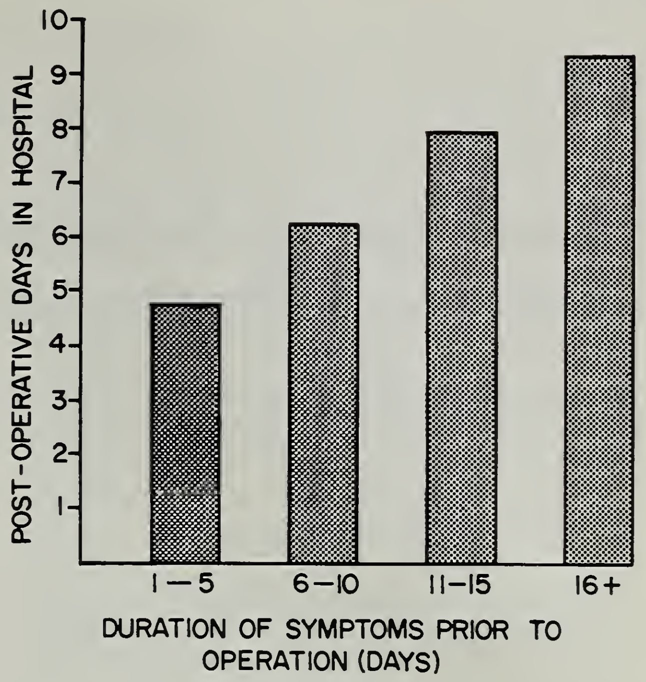

Fig. 1 Correlation of duration of symptoms prior to surgery with postoperative stay in the hospital.

The diagnosis of hypertrophic pyloric stenosis should pose no difficulty if the possibility of this disease is kept in mind whenever one encounters persistent vomiting during the first six weeks of life. The infant who eats well at first and then begins to vomit with gradually increasing forcefulness, volume and frequency should be a prime suspect. If a pyloric tumor can be felt in such an infant, we feel there is no need for further diagnostic procedures. When there is doubt, however, roentgenograms can be helpful in establishing or ruling out this entity. Delay in diagnosis can produce tragic and unnecessary deaths from inanition, dehydration and electrolyte imbalance; and, as shown by our experience, can be responsible for a prolonged postoperative hospital course.

BIBLIOGRAPHY

1. Ravitch, M. M.: The Story of Pyloric Stenosis. Surgery, 48: 1117, 1960.
2. Mellin, G. W., Santulli, T. V. and Altman, H. S.: Congenital Pyloric Stenosis. A Controlled Evaluation of Medical Treatment Utilizing Methyl-Scopolamine-Nitrate. J. Pediat., 66:649. 1965.
3. Benson, C. D. and Lloyd, J. R.: Infantile Pyloric Stenosis. A Review of 1120 Cases. Am. J. Surg., 107:429, 1964.
4. Donovan, E. J. and Stanley-Brown, E. G.: Congenital Hypertrophic Pyloric Stenosis. Surg., Gyn. and Obstet., 115:403, 1962.
5. Prosser, R.: Infantile Hypertrophic Pyloric Stenosis. Surgery, 58:881, 1965.

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Home-Care vs. Institutional Rehabilitation of Stroke: A Comparative Study

A MARKED INCREASE in chronic disability has greatly strained existing rehabilitative facilities and personnel. In an attempt to establish an alternative area of treatment, a home-care program with primary emphasis on stroke was conducted in 1964-65 in two Missouri communities. Pilot programs were initiated under the direction of a physician in each community, to whom a registered nurse with special training in rehabilitative techniques was assigned. Monthly consultation visits were provided by the Section of Physical Medicine and Rehabilitation of the University of Missouri School of Medicine.

Institutional rehabilitation has disadvantages which are not limited to over-taxed facilities and scarcity of personnel. Since learning to function within a given environment is a primary goal of rehabilitation, it was felt that a patient could gain much from a home-care program which eliminates the transitional phase from institution to home. In such a program, the physician and nurse could help the patient's family bcame familiar with his problem as they adjust to the new situation. In respect to reduced cost, home-care rehabilitation services deserve considerable attention.

The primary purpose of this study was to obtain a reasonably accurate comparison of the effectiveness of home-care versus institutional rehabilitation of the stroke patient, using restoration of independent functional abilities as the chief criterion. The problems inherent in conducting a completely objective study of two such complex programs are recognized. Nevertheless, the pilot project yielded valuable information which seems worthy of further investigation with broader programs and larger samples.

METHODS

The group of patients evaluated in the home-care rehabilitation program were those with a completed stroke who had received active rehabilitative care only in the home and who were living at the time of the final evaluation. There were ten such patients in Area A and seven in Area B. Information regarding these 17 patients was obtained from the family physician, consulting physiatrist, home-care nurses, patients and their families. Active rehabilitative care involved restorative treatment prescribed by either the family physician or consulting physiatrist. The family physician supervised actual treatment which was carried out by the nurse or by family members with her help and instruction. Direct observation and evaluation were made of each patient at the end of the study.

All patients with completed stroke who had been admitted to the Physical Medicine and Rehabilitation Service at the University of Missouri Medical Center from July 1, 1962 to June 30, 1965 and were still alive at the final evaluation made up the group representative of the institutional rehabilitation program. There were 39 such patients who could be located for final evaluation. Information relating to these patients was obtained from the hospital charts, attending physiatrist, family physicians, patients and families.

A survey form was devised which was applicable to both groups of patients, and data was derived from the information compiled from a total of 56 forms. The first group of questions was designed to obtain information of a general nature about the patient and his stroke. The next several items concerned the proficiency in activities of daily living and the psychosocial status of the individual. These items were rated at the following intervals in relation to the stroke: before the stroke, immediately post-stroke, beginning of restorative program, at discharge or discontinuance of rehabilitation program, and at the time of final evaluation. The rating scale involved a numerical value which was assigned to a quantitative estimate of the functional level in these categories:

1. Feeding
2. Dressing
3. Ambulation
4. Bladder function
5. Hygiene

6. Sensory (hearing, sight, intellect, etc.)
7. Speech

and the status of these major contributing factors;

8. Family attitudes
9. Residence
10. Economic status

The final portion of the survey form included questions asked of the family physicians, home-care nurses, patients and families regarding aspects of the environment and their opinions of rehabilitation services. Suggestions for improvement of treatment were also encouraged.

Information compiled on each patient was discussed at length among the investigators to ensure its accuracy prior to the analysis of the data available for each group.

Results

Functional Ability: Patients participating in the home-care program achieved the same degree of *proficiency* in performing the activities of daily living as those patients who participated in the institutional rehabilitation program. In addition, average levels of *progression* were calculated for each patient in each of the two programs and the results were identical.

Motivation: As rated at the time of final evaluation, the average motivation for rehabilitation was identical for the two groups of patients. It was also found, as expected, that motivation correlated directly with progression in functional ability.

Age at Time of Stroke: This study indicated that there is a gradual but consistent decrease in ability to achieve rehabilitation potential with increasing age. This finding occurred in both groups of patients.

Aphasia: Those patients participating in the home-care programs without formal speech therapy had a higher percentage of complete recovery from aphasia. The data concerning aphasia further indicated that the patients who had an enduring aphasic condition progressed as well in their over-all rehabilitation as those patients with little or no residual speech loss.

Length of Time From Stroke to Start of Rehabilitation: In both the institutional and home-care programs there appeared to be an advantage in starting the rehabilitation as soon as possible after the acute phase of the stroke had subsided.

Correlation Between Motivation and the Patient's Opinion of Rehabilitation: It was noted that patients who had a high opinion of the rehabilitation program in which they participated, whether home-care or institutional, were also highly motivated for rehabilitation.

A report on a study which was designed to compare the efficacy of home-care and institutional care in the rehabilitation of stroke patients. The results indicate that desired rehabilitative effects can be obtained equally well in both situations provided the programs are properly planned and executed. Doctor Wolcott is Chief of Section and Doctor Wheeler is an Instructor in the Section of Physical Medicine and Rehabilitation, University of Missouri School of Medicine. Miss Mueller and Messrs. Ballard, Crumb and Miles are Junior medical students.

Discussion

Although these results indicate that the patients in both programs achieved the same degree of functional restoration, there are several factors which tend to indicate that the home-care program might actually provide more complete rehabilitation than the institutional program. One of these factors is the difference in the average age of the patients in the two programs. The average age at the time of stroke for institutional patients was 57 years 3 months; for the home-care patients it was 67 years 7 months. Thus, the home-care patients were an average 10 years 4 months older at the time of the stroke. If the results, which indicate that achievement of rehabilitation potential decreases with increasing age, are valid, one might conclude that the home-care program was the more successful.

Since motivation, as assessed and rated for the purposes of this study, was identical for both groups of patients, a potential variable was eliminated from the study. A relationship between motivation and successful rehabilitation was expected. However, this correlation was so consistent that motivation seemed to be the single most important determinant of the success or failure of the rehabilitation program. The home-care program seemed to have a decided advantage in those patients with marginal motivation. It would appear that the nurse, through regular home visits, was able to observe changes in the intra-family relationships at an early stage and assist the patient and his family in reversing these undesirable trends. Most patients who do not do well during rehabilitation, or who regress after achieving a degree of proficiency, usually seem to have personality changes which often include excessive dependency, an abundance of self-pity and a habitually negative attitude. These changes develop so gradually that the patient and those close to him are not aware of them until both parties have accommodated to the new relationships and attitudes. By then a reversal of the trend is virtually impossible without help.

Unless the patient is unusually independent, it appears that a supportive attitude on the part of the family or close associates is necessary for continued high motivation and for successful and lasting rehabilitation. This is a role which is often difficult for people close to the patient to assume since it requires that they be supportive without increasing his dependency.

Although this study indicated that there is a decrease in achievement of rehabilitation potential with an increase in age, it should be pointed out that age is not a bar to the achievement of rehabilitation potential for an *individual.* In both programs there were patients of advanced age who had high motivation and who attained complete or nearly complete recovery.

Perhaps the advantage of starting rehabilitation as early as possible is so obvious that it deserves no comment. However, it should be emphasized that a long delay in starting rehabilitation does not necessarily preclude successful rehabilitation. For example, this study included five patients whose rehabilitation was begun from five to 14 years after the stroke, and whose average recovery was equal to that of those patients whose rehabilitation was begun within 30 days after the stroke.

Comments

The rehabilitation regimen to which the patients on the institutional program were subjected is closely comparable to that found on most Physical Medicine and Rehabilitation Services. In all cases the patients were admitted to the hospital and received intensive occupational, physical and speech therapy from one-half to one hour's duration as seemed indicated, two to four times each day. All therapy was prescribed by a qualified physician. Adequate rehabilitative facilities, equipment and personnel were available.

The techniques of rehabilitative care rendered by the home-care nurse were closely comparable to those provided in the institutional program. Although such items as tilt tables and parallel bars were not available, the home-care nurse used her ingenuity and resourcefulness (along with an admirable amount of patience) to find adequate substitutes. She assisted the family in such things as providing a suitable bed. She later instructed the patient on techniques of sitting and then standing as the ability to balance was regained. Two straight-backed chairs were used in many instances as a substitute for parallel bars in teaching the patient to walk. In addition she also furnished or assisted in acquiring such rehabilitative equipment as sand bags, exercise pulleys, ropes, wheelchairs and crutches.

A most important function of the home-care nurse is to advise and counsel the family and others who care for the patient. This is an area which is frequently neglected when patients are treated in institutional rehabilitation centers. All too often this results in a tendency of the patient to regress after returning home because the family is not prepared for the continuing treatment program. The home-care nurse, however, is in an excellent position to assess the family's awareness of the problem and to offer whatever assistance and advice the situation requires. Furthermore, the home-care nurse can be of tremendous help to the family by demonstrating, for example, how to lift the patient, how to transfer him to and from a wheelchair, how to minimize incontinence by timed voidings, how to exercise affected muscles to prevent contractures, and how to avoid the development of serious dependency.

Summary

A comparative analysis has been made of the levels of functional restoration of stroke patients in both an institutional rehabilitation program and a home-care rehabilitation program. Thirty-nine patients who received rehabilitation care at the University of Missouri Medical Center composed the institutional group. The home-care group was made up of 17 patients who received rehabilitative care by trained home-care nurses under the direction of the family physician. The study indicates that the patients participating in the home-care program achieved the same degree of proficiency in performing the activities of daily living as that achieved by the patients who had participated in the institutional rehabilitation program. It also indicates that there is a gradual but consistent decrease in ability to achieve rehabilitation potential with increasing age. Since the average age of the home-care patient was ten years older than the average patient on the institutional rehabilitation service, it would appear that the home-care program is at least as effective as the institutional program.

Clinical-Pathology Conference

Saint Luke's Hospital, St. Louis

(This is the first in a series of CPC's from Saint Luke's Hospital. The Editors wish to thank Dr. Robert Paine, Chief of the Hospital's Department of Medicine, for editing the original transcript and preparing the manuscript.)

CASE HISTORY

A 38-year-old woman was admitted on September 10, 1961 because of fever, headache and skin rash.

At the age of 17 she had chorea; at 18, migratory polyarthritis; and at 22, recurrent chorea. A pregnancy was terminated in 1946 because of "rheumatic heart disease." In 1947 chorea recurred during another pregnancy. At that time apical systolic and presystolic murmurs were recorded. In 1954 elevation of serum globulin concentration and severe anemia were discovered. At that time severe polyarthritis responded promptly to aspirin therapy. Equivocal X-ray evidence of rheumatoid arthritis of the hands was reported in 1954. She had taken aspirin and oral penicillin from 1954 until the final admission.

In 1955 she was hospitalized with fever, migratory joint pains and lymphadenopathy. Presystolic and systolic murmurs were audible at the cardiac apex. Hepatomegaly and splenomegaly were recorded. There were redness and swelling of the dorsum in the proximal interphalangeal joints of the second finger and thumb of one hand. Leukopenia, anemia and negative L.E. tests were recorded. Sedimentation rate was within normal limits.

In June 1955 an acute episode of fever and skin rash occurred. Joint pains recurred severely in 1957. In 1959 a cephalin cholesterol flocculation test was abnormal, an electrocardiogram showed T-wave abnormalities and a facial skin rash appeared. Oral cortisone therapy was initiated in 1959 and continued until the time of the final admission.

The patient did well until one month prior to the final admission when she began to cough, to be short of breath and to suffer orthopnea, epistaxis, recurrent skin rash, soreness of the gums, fever without chills, vomiting and frontal headaches.

Physical examination on admission showed an acutely ill woman who was alert and cooperative. Examination of the head, ears, eyes, nose and throat was normal. The neck appeared normal. Examination of the chest showed dullness at the tip of the scapula on the left, with a few transient rales in this area. Cardiac apex was located 9 cm. from the midsternal line in the fifth left interspace. There was a grade I to II apical systolic murmur without thrill, and a Grade I presystolic sharp crescendo rumbling apical murmur. There was a Grade I pulmonic systolic murmur. The aortic second sound and pulmonic second sound were normal. Heart rhythm was normal. The liver edge and spleen tip were palpable 2 to 3 cm. below the rib margin. There were many ecchymoses on the lower extremities but no edema. Dorsalis pedis pulse was absent on the left and present on the right; posterior tibial pulses were bilaterally present. The joints appeared normal. There was no facial rash. Blood pressure was 220/110. Temperature, 38.5 C. Heart rate, 120.

Laboratory examination showed 7.3 gm/100 cc of hemoglobin, 21% hematocrit, 3,900 white blood cells cu mm, 7% stabs., 77% segs., 15% lymphocytes and 1% monocytes. Platelets appeared "adequate." Examination of the urine sediment showed 10 to 20 red blood cells and 4 to 8 white blood cells and a trace of albumin. The specific gravity was 1.018. P.H., 5.0. ASO titer was 12 Todd Units. C-reactive protein was positive. Red cell indices were normocytic and normochromic. Serum albumin was 2.3 and globulin 4.5 gm/100 cc. Fasting blood sugar 88 mg/100 cc, BUN 38 mg/100 cc on the day after admission.

A second urinalysis showed 4 plus albuminuria, 1 white blood cell and 6 to 8 red blood cells. Specific gravity, 1.011. Two blood cultures were sterile. PBI was 4.2 μg/100 cc, alkaline phosphatase 3.8 units 100 cc, total bilirubin 0.1 mg/100 cc, prothrombin activity 100% of normal.

Platelet count on September 13 was 185,000/cu mm. L.E. preparation on September 12 was negative. CC flocculation test was 4 plus. Stool guaiac was negative on two occasions. Quantitative Kahn was positive (16 Kahn units). VDRL was reactive. On September 14 urine showed no albumin. There were 10 to 20 white blood cells, 8 to 10 red blood cells and a few hyaline and granular casts. Urine culture grew a light growth of beta hemolytic staphylococci. Coombs' test was negative. Reticulocyte count on September 15 was 4.5%. Lee-White clotting time was 9 minutes with no evidence of circulating anticoagulants when tested. Calcium on September 15 was 7.6 mg/100 cc; potassium was 6.2 mEq/liter; sodium, 129; chloride, 102; and CO_2, 17. On September 18 serum potassium was 5.6 mEq/liter. Subsequent urinalyses showed 3 to 4 plus albuminuria.

Hemoglobin subsequently was 6.4 gm/100 cc. Serum phosphorus was 7.3 mg/100 cc; serum albumin, 2.7 gm/100 cc; globulin, 1.8 gm/100 cc; and serum cholesterol, 203 mg/100 cc.

Chest roentgenogram on September 11 revealed marked increase in overall cardiac size with a small right pleural effusion and distension of pulmonary vessels. On September 13 a pulmonary infiltrate was present in the right lower lobe. X-rays showed normal sized left kidney; the right was not well visualized. Right retrograde urogram showed no abnormality.

Electrocardiogram on September 11 showed a borderline normal tracing with flattening of the T waves. Subsequent records showed definite T changes.

Needle biopsy of the kidney demonstrated only fibrous tissue.

The hospital course was marked initially by blood pressures which ranged from 200 to 240 mm Hg systolic and from 90 to 140 mm Hg diastolic. There was a gradual decrease in pressure with an average pressure later in the hospital course of 180/100. Temperature fluctuated from 38.5 C upon admission to normal levels until the final three days of her life, at which time the temperature reached a peak of 39 C.

Treatment included Medrol 8 mg q 6 hours, Lanoxin, Compazine, Basalgel, exchange resin enemata, parenteral glucose with insulin and calcium gluconate, and Aldactone 100 mg b.i.d.

There was gradual accumulation of subcutaneous fluid. A pericardial friction rub appeared. On October 30 she suddenly became unresponsive after several days of increasing stupor and edema, and expired quietly.

Participants:

Paul O. Hagemann, M.D., Assistant Professor of Clinical Medicine, Washington University School of Medicine.

William D. Perry, M.D., Assistant Professor of Clinical Medicine, Washington University School of Medicine.

Arthur A. Porporis, M.D., Radiologist, Saint Luke's Hospital.

Kenneth C. Price, M.D., Instructor in Clinical Medicine, Washington University School of Medicine.

James F. Nickel, M.D., Assistant Professor of Clinical Medicine, Washington University School of Medicine.

Neville Grant, M.D., Instructor in Clinical Medicine, Washington University School of Medicine.

George A. Koehler, M.D., Department of Medicine, Saint Luke's Hospital.

Robert W. Ogilvie, M.D., Pathologist, Saint Luke's Hospital.

Discussion by Clinicans

Hagemann: This 38-year-old lady was in the hospital for six weeks 1961, entering with fever, headache and skin rash. She had a past history of chorea and rheumatic fever; and a diagnosis of rheumatic heart disease with mitral stenosis had been made. Seven years prior to her demise, additional findings seemed to have made their appearance. She became anemic, serum globulin was increased and there was another episode of polyarthritis. She was given penicillin prophylactically from that time until her final admission. Dr. Perry would you please comment about this. Can we accept a diagnosis of rheumatic fever in this lady?

Perry: Certainly in a young lady with chorea, migratory polyarthritis and the development of a heart murmur one would have to accept the diagnosis of rheumatic fever as an initial diagnosis. I do not believe you can explain the later course of this patient on this basis. The recurrence of chorea with pregnancy would be quite typical. Approximately one third of patients with chorea have recurrences. This is particularly likely to occur during periods of stress including pregnancy.

Hagemann: Dr. Perry, how often is this type of picture seen preceding the development of other aspects of collagen disease?

Perry: Chorea is a manifestation seen sometimes in lupus and in other diseases associated with arteritis. Chorea has also been seen in polycythemia and is, therefore, a disease not limited to its association with rheumatic fever.

Hagemann: For the two years prior to her death this patient was on continuous corticosteroid therapy, 6 mg of Medrol per day. This I thought was relatively important in interpreting her later difficulties. She did reasonably well on this program until prior to the final admission when she developed dyspnea, orthopnea and cough, recurrence of rash, epistaxis, sore joints, fever, vomiting and frontal headaches. Physical examination on entry revealed 38.5 C temperature. Blood pressure was 220/110. She presented physical signs of mitral stenosis; rales at the left lung base; liver and spleen were palpable; there were a number of ecchymoses on the legs; and one dorsalis pedis pulse was not palpable. Dr. Porporis, can you show us what you have roentgenographically?

Porporis: A chest X-ray in 1954 shows slight prominence in the region of the pulmonary artery. There is no widening of the bronchial angle at the carina nor is there a double density in the region of the left atrium. Therefore, at that time we could not make a diagnosis of rheumatic heart disease. The next film, in 1961, shows marked increase in overall heart size, pulmonary vascular congestion and bilateral pleural effusions. Three days later there was slight decrease in heart size, pulmonary congestion and pleural effusion. A film of the abdomen shows splenomegaly and signs of ascites.

Hagemann: Dr. Price you have heard the protocol and seen these roentgenographic findings. Would you comment about what you believe the differential diagnosis at this point should include.

Price: I had thought of a number of different diseases and, of course, rheumatic fever had occurred to me and it may have been present, but it seems to me that the subsequent course did not indicate progressive rheumatic heart disease. The roentgenographic findings are not impressive. One would have to think of lupus erythematosus, although in my own mind polyarteritis nodosa would be a better diagnosis and probably the best. There is a striking absence of comment about the mitral first sound which leads me also to doubt the presence of severe mitral stenosis. The normal pulmonary second sound would cast doubt on the presence of significant pulmonary hypertension as well.

Hagemann: I find your comments quite interesting. How are we to interpret a Grade I presystolic rumbling crescendo apical murmur?

Price: I would interpret that as indicating the presence of mitral stenosis, but I do not believe that this is a significant disorder.

Hagemann: Apparently the presence of heart failure was seriously considered for she was digitalized during this admission.

Price: May I interrupt and add the following possibility of subacute bacterial endocarditis in the terminal illness. However, I do not consider this as a very likely possibility.

Hagemann: Apparently those caring for her did not either for they obtained only two blood cultures, both of which were sterile. Dr. Nickel, you saw this patient. Would you give your thoughts?

Nickel: Urinary abnormalities indicated a chronic inflammatory condition within the kidney compatible either with chronic glomerulonephritis or disseminated lupus erythematosus or visceral arteritis. I thought that the whole clinical picture was compatible with disseminated lupus. The course was that of progressive renal insufficiency. It should be noted that terminal BUN's ranged around 90 mg/100 cc. One would be tempted to consider a non-bacterial endocarditis with embolus type of kidney damage as a part of disseminated lupus.

Hagemann: There are many features of this lady's course that suggest she developed the nephrotic syndrome terminally with a depressed albumin and falling serum globulin. Is this consistent with your thoughts?

Nickel: Yes, of course. The size of the kidneys roentgenographically is more compatible with lupus than with the contracted kidney of chronic glomerulonephritis.

Hagemann: Two areas that interest me about this patient are suggested by the long term steroid therapy. Dr. Grant, what happens to people who are exposed to exogenous corticosteroids over a long period of time?

Grant: I should begin by saying that I do not believe that this lady's difficulties were related to the steroid therapy in the dosage given. Long term steroids produce many disturbances, and the whole syndrome is not entirely clear. The adrenal gland atrophies because ACTH is suppressed by exogenous steroids. It is interesting to note that although the overall atrophy of the adrenal gland occurs, the zona glomerulosa which produces aldosterone is generally not suppressed and sodium balance remains intact. There is considerable interest about what happens to the pituitary where there are histological changes. When steroids are administered for over a year, ACTH secretion is suppressed and the pituitary may be the site of one of the problems encountered in long-term steroid therapy. In patients who have received steroids for a year or longer, for one month after withdrawal plasma cortisol and plasma ACTH are depressed. After a month plasma ACTH rises to normal or perhaps even higher than normal. Plasma cortisol remains low for approximately eight or nine months. So for eight or nine months the pituitary is putting out plenty of ACTH but the adrenal gland is not responding. After nine months they both come into a normal range. To maintain pituitary and adrenal responsiveness in the face of steroid therapy the drug may be administered on a time schedule so arranged as to protect adrenal and pituitary integrity. One of the first approaches was to give the drug for four days and then to omit it for three days. This was unpleasant for the patient because of symptomatic relapse. More recent programs have included the administration of the total dose for two days at one time on the morning of alternate days. This retains adrenal responsiveness. Studies have shown that a small dose of Decadron given in the morning partially suppressed adrenal secretion, while the same dose of Decadron given in the evening suppressed adrenal secretion totally. Thus, the time of day is of importance. The other way of approaching the problem during long-term steroid therapy is to give ACTH. It is clearly shown that ACTH must be given at least every third day during the entire period of steroid administration to keep the adrenal gland responsive. But even then the patients uniformly undergo a steroid withdrawal syndrome characterized by arthralgia, fever, marked lethargy, weakness and a characteristic desquamation of the skin. This has nothing to do with adrenal insufficiency and its mechanism is unknown.

Hagemann: Dr. Koehler, would it worry you that this lady has never had a positive LE test?

Koehler: I do not believe that a positive LE test is essential to the diagnosis of lupus erythematosus, nor does a positive LE prep make a diagnosis of this disease, since other diseases may be associated with false positive LE tests.

Hagemann: In the series of patients reported by Harvey and Tumulty, the average duration of symptoms prior to the development of positive LE tests was 15½ years. If one accepts chorea as this lady's initial manifestation of the process, she had lupus erythematosus for 21 years. The possibility that some of these manifestations were due to or aggravated by steroid administration comes to mind. Some of her difficulties resemble those reported in patients with rheumatoid disease treated with steroids. Among 38 rheumatoid patients who received no steroids, there was an incidence of arteritis of 21% at autopsy. This is a *localized focal* finding. On the other hand, among those patients who received corticosteroids the incidence of arteritis was 29%, but this *was generalized* arteritis found in many organ systems. The signs of polyarteritis associated with this manifestation included peripheral neuropathy, leukocytosis, fever, nephritis and arterial insufficiency. Many of the patients have been reported to have digital gangrene involving toes and fingers due to thromboses of small arteries. Among five patients we have studied all had peripheral neuropathy, four had digital spots of gangrene and two of the five expired. Among rheumatologists there has been a proper concern as to what is a reasonable dose of steroids. The postmenopausal female seems most susceptible to hypercorticism and could tolerate, in published experience, only 5 mg of Prednisone or its equivalent per day without danger. The premenopausal female and men tolerate somewhat larger doses. For the most part rheumatologists now adhere to the small dose schedules although they are homeopathic doses when compared with those used by hematologists, ophthalmologists and others.

Koehler: Dr. Hagemann, do patients other than those with rheumatoid arthritis develop the syndrome of hypercorticism which you have described?

Hagemann: This type of response seems unique to people who have a predisposition to collagen disease. One does not see the type of manifestation in people with asthma, dermatological problems and the like. If you take rheumatoid patients in general, about five percent have positive LE tests. If you give steroids to these people with rheumatoid disease, the instance of positive LE tests in these people goes up to about 15%. If given to the extent of hypercorticism, the instance of positive LE tests in the same group of patients will go up to around 25%, suggesting that you could aggravate a less severe type of collagen problem into a florid process by excessive steroids. I would assume that the consensus is that this lady had a widespread arterial problem. We might poll our consultants—

Nickel: I feel this is disseminated lupus.

Perry: I would agree.

Grant: I think so too.

Price: I think there is little doubt that there is polyarteritis. I would favor that diagnosis.

A member of the audience: Dr. Hagemann, in 1951 Dr. Freeburg published a series of patients with rheumatic heart disease untreated by steroids in whom polyarteritis was found. Would you please comment about this finding?

Hagemann: Agreed. In most instances this was *localized focal* arteritis.

DISCUSSION BY PATHOLOGIST

Ogilvie: This patient had systemic lupus erythematosus, a disease that occurs more commonly in females, often has an insidious onset with either a continuous or intermittent course and is characterized by multisystem involvement. This disorder has been classified as a "collagen disease" and has been placed more recently into the general category of auto-immune diseases.

The predominantly involved organ in this case was the kidney. The right and left kidneys were moderately enlarged weighing 190 and 220 gm respectively. The cortices bulged from the cut surface and showed focal areas of congestion producing a speckled appearance (Fig. 1). The intervening cortical tissues appeared yellow-tan. Microscopically, several features characteristic of lupus nephritis were evident. Hematoxylin bodies occurred in small clumps in the glomeruli (Fig. 2). These represent a histologic manifestation of the LE phenomenon and, when present, are very characteristic of lupus erythematosus. In addition there were pink, smudged, wire loop lesions in the glomeruli resulting from focal thickening of the basement membranes (Fig. 3). Foci of vascular necrosis involved scattered small arterioles in the renal parenchyma. Some glomeruli contained foci of cellular proliferation and more diffuse basement membrane thickening, with a pattern more like that seen in membranous glomerulonephritis. The renal biopsy performed prior to the patient's death contained no identifiable renal tissue although evidence of needle penetration of the kidney itself was found at autopsy.

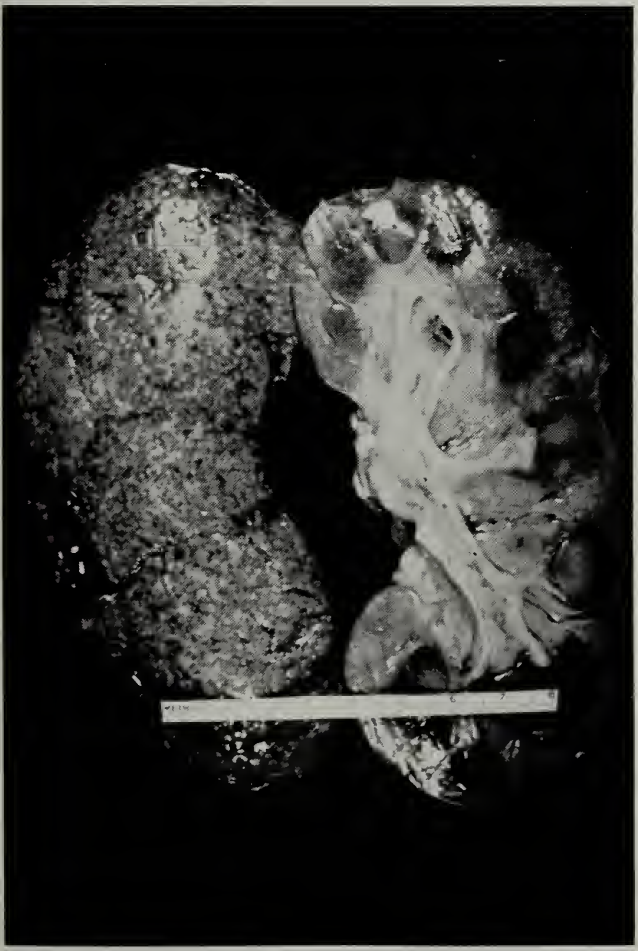

Fig. 1 Gross appearance of kidneys, showing granular cortical surface and scattered minute foci of congestion.

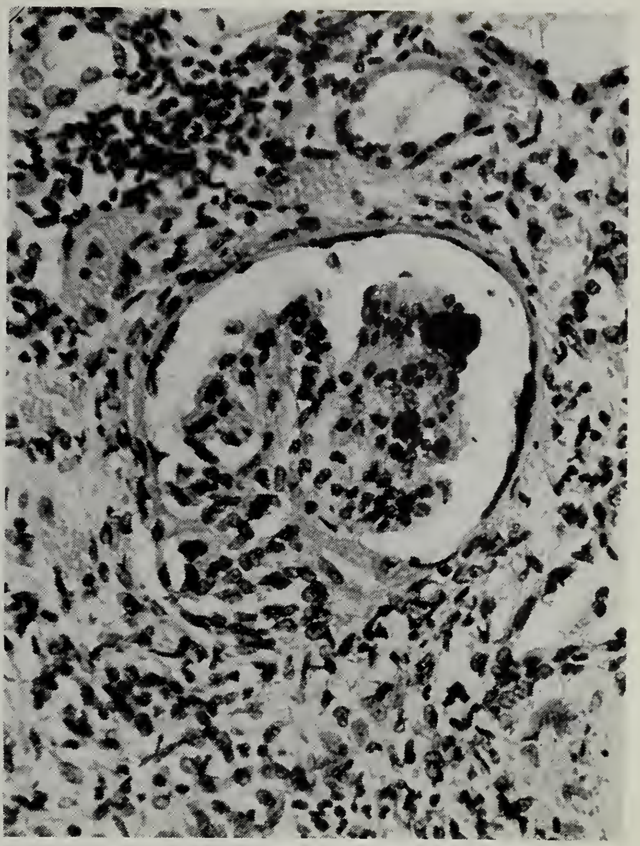

Fig. 2 Hematoxylin bodies, identified in glomeruli, are evident here as amorphous black masses at right, larger than the nuclei of glomerular cells.

In the spleen a laminated concentric form of periarterial fibrosis occurred, producing the "onion skin" lesion, also a typical manifestation of disseminated lupus erythematosus (Fig. 4).

The bone marrow at autopsy was hypoplastic. Isolated megakaryocytes and scattered hematopoietic cells were present but histiocytes, plasma cells and lymphocytes were most numerous. The patient's clinical hematologic abnormalities, including anemia and leukopenia, are not surprising in view of the bone marrow hypoplasia. While bone marrow depression is commonly encountered clinically, actual hypoplasia is unusual.

There was no widespread serositis although focal fibrous adhesions were encountered about the apex of the heart and the lungs. The adrenal glands were small, thin and atrophic. This atrophy may be attributed to the long term steroid therapy.

The patient's demise was hastened, no doubt,

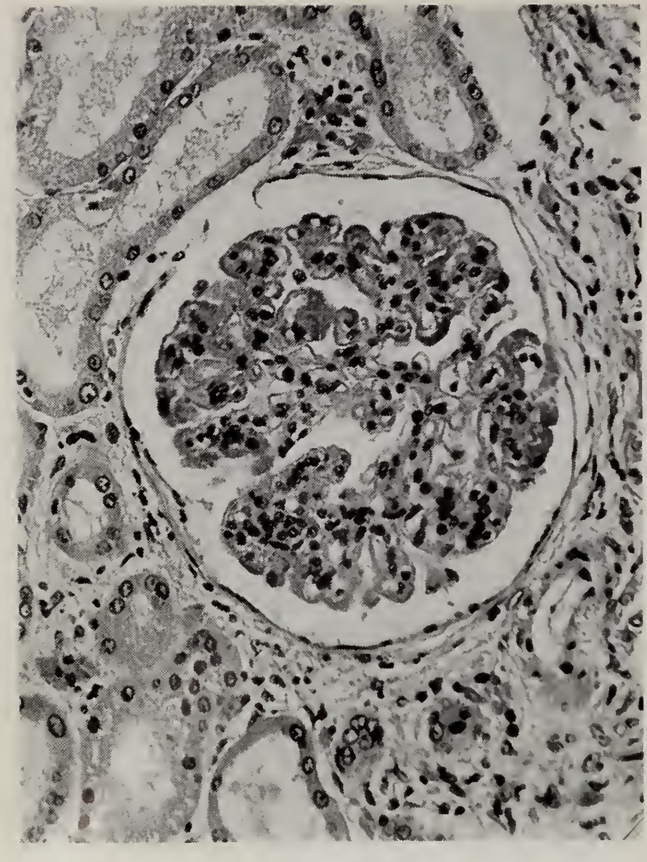

Fig. 3 Prominent thickening of glomerular basement membrane, the wire-loop lesions of renal lupus erythematosus.

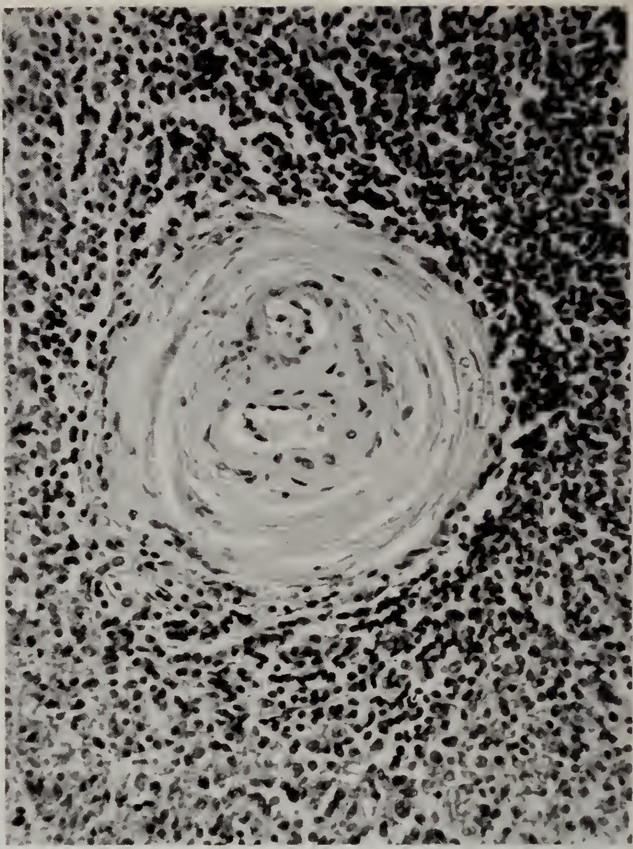

Fig. 4 Concentric, laminated periarterial fibrosis, in the spleen.

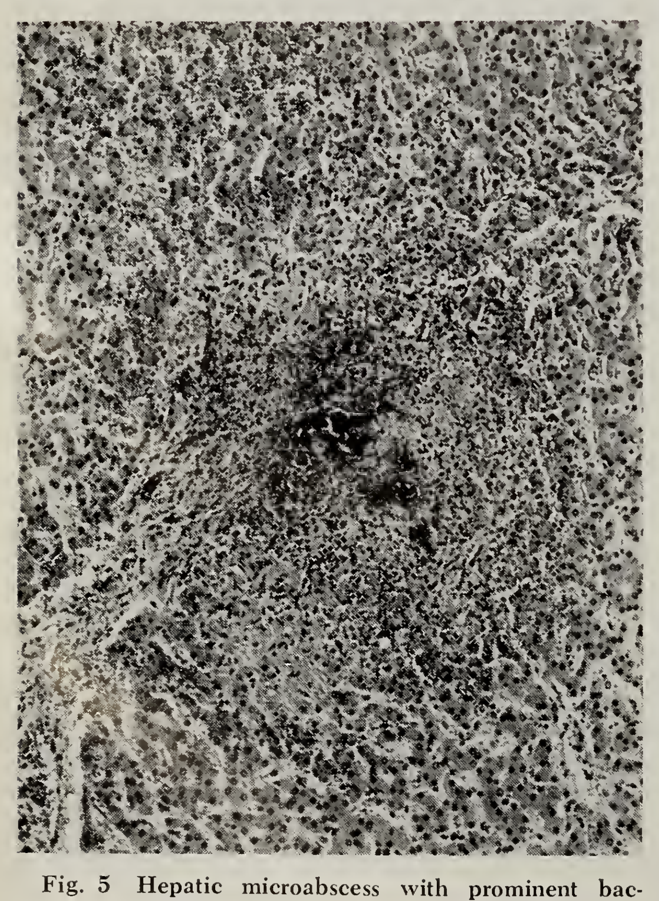

Fig. 5 Hepatic microabscess with prominent bacterial colonization in center.

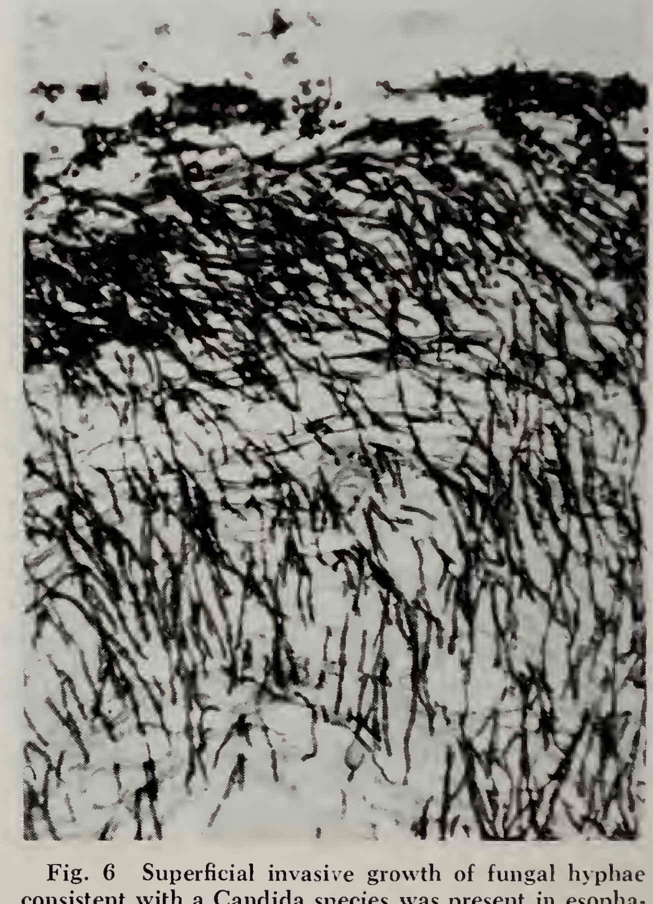

Fig. 6 Superficial invasive growth of fungal hyphae consistent with a Candida species was present in esophageal ulcers. Periodic-acid-Schiff stain.

by a β-hemolytic, coagulase-positive staphylococcus aureus septicemia with resultant foci of necrosis and microabscesses with bacterial colonization within the liver (Fig. 5), right lung and kidneys. As in this case, terminal bacterial infections are frequently encountered in systemic lupus erythematosus. In addition, there were mucosal ulcerations and necrosis in the esophagus and stomach. Superficial fungus growth and bacterial colonies were present in these areas. The hyphae of the fungus resemble those of a candida species and show especially well when stained by periodic-acid-Schiff technique (Fig. 6).

In spite of the wide heart shadow noted by chest X-ray, the heart was not prominently enlarged at autopsy, weighing 350 gm. The mitral valve leaflets were slightly thickened and retracted which might be related to the history of multiple episodes of "chorea" and "rheumatic heart disease." No vegetations of atypical verrucous endocarditis were demonstrable.

Diagnoses by Pathologist

Lupus erythematosus, disseminated, with predominant kidney involvement (lupus nephritis). Splenomegaly (490 gm) and fibrous perisplenitis. Ascites, serous, about 3000 ml. Pitting edema of lower extremities, 2+ to 3+. Edema of peritoneal and retroperitoneal tissues. Pleural effusion, serous; right 100, left 150 ml. Petechial hemorrhages of skin, serous membranes and large intestine. Atrophy of adrenals (long term corticosteroid treatment). Bone marrow hypoplasia. Septicemia (β-hemolytic Staph. aureus) with multiple abscesses in liver, right lung and kidneys with bacterial colonization. Acute superficial ulcerations of esophagus and stomach with bacterial and mycotic colonization.

WANTED

Scientific papers relating to clinical investigation, basic medical science or clinical medicine. Papers should be planned with 10-minute "in person" presentation in mind. Authors of selected works will be invited to present their papers at the 109th Annual Session of the Missouri State Medical Association . . . April 6-9, 1967 . . . Chase-Park Plaza Hotel . . . St. Louis.

Send abstracts to:

**John I. Matthews, M.D., Secretary
Missouri State Medical Association
515 East High St.
Jefferson City, Mo. 65101**

Surgeon General William H. Stewart states that routine typhoid immunization is NOT recommended in the United States. His statement was based on findings of the Public Health Service Advisory Committee on Immunization Practices. Text of the recommendations was released July 29 in the Morbidity and Mortality Weekly Report for the week ending July 23. The Report is published by the Communicable Disease Center in Atlanta. It recommends selective immunization in the following situations: (1) Intimate exposure to a known typhoid carrier as would occur with continued household contact. (2) Community or institutional outbreaks of typhoid fever. (3) Foreign travel to areas where typhoid fever is endemic.

ROBERT H. FELIX, M.D., ***St. Louis***

The Future of Medical Education

It is obvious to all of us that our world is rapidly changing and that if we are to keep pace with it and to adapt ourselves to the demands of today, to say nothing of preparing for the demands of tomorrow, we must repeatedly reexamine the status of our profession as an instrumentality of society. From earliest times, the physician has been a very important member of society and of his community and has been looked to, not only for health care in the technical sense, but for wise counsel and as the source of continuing concern for the health of his community. His role always has been a unique one. He is expected to anticipate the health needs of his community and insist upon them being met. As a scientist, he must be sufficiently unencumbered by the tentacles of tradition and of the past to be able to move forward in new directions as new discoveries and new needs indicate this to be the appropriate course of action. At the same time, he should be sufficiently conservative that the best interests of his patients and his community in general take precedence over everything else. He must not move so rapidly that he is rash nor yet move so slowly that time, new knowledge, and the opportunity for better health care pass him by and thereby, pass his community by also.

It is obvious to all, physician and layman alike, that the medical care picture in this country is changing. Whether we like it or not, whether we agree with legislation which has recently been enacted or not, medical care of tomorrow will certainly be different from medical care of yesterday or today. It follows, then, that in the training of medical students today we must give serious consideration to what medical practice will be like from 1970 to 2000 and beyond in order that the young men and women who are students today will be as well equipped as it is possible for us to equip them to meet the health problems of tomorrow and to practice medicine intelligently, effectively and in the best interests of their patients.

We still speak nostalgically of the country doctor, that devoted physician who was advisor, friend, servant of mankind, and the community's source of medical knowledge and skill. We recognize that he possessed many characteristics which are essential to good health care. His first concern was his patients. He was dedicated to their welfare. He was warm and understanding, although at times he could be somewhat stern if this were required in order to best do his job. At the same time we recognize these characteristics, we realize that the world has moved on and the doctor of those days cannot be the doctor of tomorrow. Believe me, I say this wistfully, since I knew that breed of heroes intimately and well. It was the environment of my youth. My father, his brother, both my grandfathers and many of the most intimate friends of my family belonged to that noble tribe who added so much to the luster of our profession. Nonetheless, as more is known about health and disease, as new techniques are developed, as the social picture in our country changes, the method of delivering health care must change with it in order to be most effective qualitatively and quantitatively. At the same time I say this, I quickly add that the patient-doctor relationship as we have always known it must be preserved so that those essential elements which have always been the hallmark both of the good physician and of the best in medical practice is preserved. There must still be a personal concern for each individual patient on the part of the physician. There must be free choice on the part of the patient so that, in addition to selfless dedication on the part of the physician, there will be confidence on the part of the patient. And the physician must know how to inspire and hold that confidence, even where all concerned know that the outcome is in doubt.

I have said that our society is changing. Let us take a brief look at this changing profile of society in order better to understand what we must do to meet its needs. Our society is rapidly becoming an urbanized one. More and more of us are living in cities and fewer and fewer are living on the farm or in small communities. It is predicted that by 1980 or 1990, 50% of the population of the United States will be living in great cities and that 80% of the population will live in metropolitan areas.

These large urban areas mean not only an aggregation of cultural, educational, recreational and health resources, but also an aggregation of human problems. The city dweller must contend with congestion, noise, air and water pollution, loss of privacy, and an ever-increasing degree of depersonalization as things do the jobs formerly done by people. There are increasing public health problems due to the closer contact of people and due to the dependence upon common sources of water supply, and food, and common sewage and refuse disposal systems. The World Health Organization has stated that one of the great problems of the modern city is what it calls "mental pollution," which means in effect, an aggregation of psychiatric and psychological problems which are brought about by the lack of privacy, the noise, the commotion and depersonalization of the city.

Another phenomenon of this new age which is of extreme importance to those concerned with health care is the highly mobile nature of the population. There is a failure to root, a failure to develop close ties and traditions built upon long term residence in one community. One of the characteristics of this mobile society is the lack of continuity of health care with all this means in terms of knowledge of past health history and continuing supervision of health status by the same physician. This is one of the most serious lacks of present-day society. This discontinuity of health care and health maintenance has not been inhibited at all by the rising tide of specialization among physicians. We see this perpetuated in our medical school curricula, where the whole man is presented as organ systems and biochemical and physiological phenomena. All too often there is little or no communication or interaction between departments which are made up of basic scientists and/or organ systems specialists.

The new society is increasingly more organized for the providing of services, both public and private, including health care and payment of health services. We see more and more with the passing years the utilization of third parties in the payment of such care and services. Now with the recent passage of legislation financing health care of the elderly, it can be expected that the phenomenon of third party payment will become even more widespread than has been so in the past. It can be safely predicted that within ten to 20 years there will be, for all intents and purposes, no medically indigent patients. Essentially all people will be covered by some kind of health care payment plan. In one of the larger cities, even today, an experimental program of covering welfare payments for medical care through Blue Cross or similar plans is being tried, and the reports are that it appears to be a more economical and effective way of meeting the problem than those methods utilized in the past. Finally, the technologic advances in health care have made the depersonalization of the patient a more and more serious problem. Today, much of the pharmacy and the laboratory, the dietary department, and even some nursing services can be computerized and automated. It is said that automated devices will play an increasing role in the field of radiology, and there are many other areas in which these almost human machines are making a significant impact.

A medical educator looks at the problems of medical education in a rapidly changing world and offers some broad guidelines for the training of future physicians. Doctor Felix is Dean of St. Louis University School of Medicine. The paper which is published here was first presented on April 13, 1966 as part of a panel on medical education before the St. Louis County Medical Society.

With the advance of our knowledge of the etiology of disease and the development of new treatment methods, we are seeing much more early identification of illness and early treatment. With increased effectiveness of public health techniques and of preventive medicine, the acute illnesses will not occupy nearly the proportion of the physician's time that they do now. We can expect to deal with acute illnesses over a shorter period of time but in a much more intensive fashion than has been so in the past. It can be expected that the per diem cost of hospitalization for acute illness may be considerably more than it is today, but the total expenditure for the illness will in all probability be less. The chronic and degenerative diseases, however, will be an ever-increasing problem. In the future we can expect to see much more of the physician's time taken up with chronic and degenerative diseases —the toll that time takes of those who survive to old age. It must be remembered that as one attempts to deal with this problem, one cannot divorce the psychological from the physical as-

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Meprobamate: Careful supervision of dose and amounts prescribed is advised, especially for patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g. alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence on the drug. Where excessive dosage has continued for weeks or months, reduce dosage gradually. Sudden withdrawal may precipitate recurrence of preexisting symptoms such as anxiety, anorexia, or insomnia; or withdrawal reactions such as vomiting, ataxia, tremors, muscle twitching and, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, reduce dosage and avoid operation of motor vehicles, machinery or other activity requiring alertness. Effects of excessive alcohol consumption may be increased by meprobamate. Appropriate caution is recommended with patients prone to excessive drinking. In patients prone to both petit and grand mal epilepsy meprobamate may precipitate grand mal attacks. Prescribe cautiously and in small quantities to patients with suicidal tendencies.
Side Effects: Overstimulation of the central nervous system, jitteriness and insomnia or drowsiness.
Dextro-amphetamine sulfate: Insomnia, excitability, and increased motor activity are common and ordinarily mild side effects. Confusion, anxiety, aggressiveness, increased libido, and hallucinations have also been observed, especially in mentally ill patients. Rebound fatigue and depression may follow central stimulation. Other effects may include dry mouth, anorexia, nausea, vomiting, diarrhea, and increased cardiovascular reactivity.
Meprobamate: Drowsiness may occur and can be associated with ataxia; the symptom can usually be controlled by decreasing the dose, or by concomitant administration of central stimulants. Allergic or idiosyncratic reactions: maculopapular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case of fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis (1 case), anaphylaxis, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdosage may produce drowsiness lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

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pects and the physician of tomorrow, therefore, must be even better equipped to deal with the whole patient than is his counterpart today. Those who will be responsible for the health care needs of the last half of the twentieth century must be trained to have an understanding of the economic, social and psychological aspects of health and illness, and of health care. They must develop a system which, in spite of the tendency toward depersonalization which our ever-increasingly urbanized and mechanized society stimulates, will provide a stable source of personal and continuing health care which seeks to remedy the ill effects, physical and psychological, of congestion; which takes cognizance of family unity and the family strengths and weaknesses; which provides for an increase in the number and effectiveness of health care personnel and facilities in order to meet the needs and demands of our increasing population, which is also increasing in sophistication with regard to health and disease. This system must also insure the full utilization of the entire range of health care resources under medical leadership and must take true cognizance of the changing patterns in health and disease and move to anticipate these changes so as to have appropriate services ready as they are needed.

I feel very strongly that the medical student today must be given a much greater knowledge of medical economics and medical sociology than was true of the student of the past. He must understand much better society's needs and he must be trained to utilize systems for delivering health care which meets these needs. There must be no loss of personal contact between physician and patient and there must be continuing emphasis on a family type of practice. All students should have training and experience in family practice whether or not they eventually choose a specialty.

The curriculum and environment of the medical school must be such as to accomplish a number of objectives, relative to the teaching and learning process. The curriculum should be so designed and the faculty should be selected and oriented so as to increase the motivation on the part of the student to learn not only during his student days but during his entire professional life. There should be no attempt to answer all questions, but rather to challenge the thinking ability of the student so as to increase his capacity to solve problems by use of accurate observation and sound and disciplined reasoning. His capacity to make decisions must be increased and he must develop a knowledge of medical science source material and how to use it in order to assist him in this. There must be developed in him a sense of personal responsibility and of professional commitment, as well as an awareness of the social, economic, and psychological aspects of health and disease, including an awareness of the significance of family dynamics. He must understand thoroughly what illness means to a person and to that person's family and community so that, while he, of course, cannot die with every patient who comes to him nor suffer the agonies of every pain experienced by his patients, he can at least relate emphatically as did his predecessor about whom we spoke a moment ago. The delivery of medical care is becoming increasingly complex, as we have said, and as it becomes more so in the future, as it inevitably will, it will be impossible for the physician to do all things for his patient which he has traditionally done in the past. There will be skilled technicians who will carry out many of the procedures in the course of diagnosis and treatment, but these can only be carried out under medical supervision and leadership. Therefore, it is important that beginning now we develop in our students the ability to function not only as a member of a professional health team, but as its leader, that is, as its team captain. He must be able to supervise and consult as well as treat. The world of medical practice and care is changing so rapidly that it would be impossible to impart during his student days information which would be usable a decade or even less after graduation in the same form in which it was originally given. Therefore, it becomes incumbent upon us to impart a fund of basic medical knowledge appropriate to our changing society with an emphasis upon the understanding of principles, not mere acquisition of facts; and this must be done by precept as well as by the lecture method. This means that more and more in the future the preceptor type of training and supervision must be employed in order that our students may have an understanding of sickness as a family and social phenomenon as well as a biological condition. Of course, it goes without saying that the whole program of medical education in all its phases must be organically integrated into the university and that the educational process must be an organic continuum, rather than a compartmentalized and partitioned succession of unrelated experiences. That is to say, thought must be given to so blending the so-called basic and

(Continued on page 742)

Studies on the Epidemiology of Listeriosis in Missouri

DONALD C. BLENDEN, D.V.M., STANLEY L. SILBERG, Ph.D. ***and***
GEORGE A. GATES, D.V.M., ***Columbia***

LISTERIOSIS IS AN INFECTIOUS DISEASE of animals and man caused by the organism *Listeria monocytogenes.* Though rarely diagnosed in humans, it remains a formidable problem in domestic animals, notably sheep and cattle. In these species it usually causes sporadic cases and epidemics of an acute febrile encephalitis that results in death or mental deterioration of the survivors. The susceptibility of man to infection is well established.[1] The widespread distribution of the organism is obvious by consistent appearance of animal infections throughout the world. Although listeriosis occurs in humans, the disease is either unrecognized or at least unreported in most instances. A relationship between animal and human infections has never been firmly established. Listeriosis is presently considered to be a common source type of infection.

The purpose of this report is to acquaint the clinician and public health worker with the occurrence of this infectious disease in Missouri, to describe some of the salient epidemiologic and diagnostic features, and to enumerate some of the gaps in knowledge that are evident in this disease.

REVIEW OF THE LITERATURE

The organism was first isolated by Murray, *et al.,*[2] in 1926 when he reported a disease of rabbits characterized by a mononuclear leucocytosis, caused by a "hitherto unrecognized bacillus" subsequently named *Bacterium moncytogenes.* Shortly after this original isolation, Pirie described an infection in South African rodents caused by a similar organism which he called *Listerella hepatolytica.*[3] Since the organism isolated by Murray and that isolated by Pirie were found to be the same, the name *Listerella monocytogenes* seemed appropriate. This choice proved to be unfortunate, however, as a mycetozoon parasite was found to have the same designation. To end the confusion Pirie suggested the designation *Listeria monocytogenes,* which is now the accepted name.[4]

Since this first description of the organism, it has been reported occurring in many countries of the world and a large number of species of animals including domestic and wild ruminants, dogs, cats, chickens and other birds, rodents, swine, horses, skunks, foxes and other wild animals.[5] Listeriosis has been reported occurring on numerous occasions in cattle and sheep resulting in encephalitis and occasionally abortion.[6, 7] Other manifestations of the infection have included valvular endocarditis in sheep[8] and septicemic infections in chickens.[9] Scholtens, interested in the etiologic agent responsible for encephalitis among foxes suspected of having rabies isolated *L. monocytogenes* rather than rabies virus in some instances.[10] Richardson and Pittman[11] have similarly recovered *L. monocytogenes* from nine of 11 samples of the brain tissue of animals which were originally suspected of having rabies encephalitis.

Gray has reported over 600 bacteriologically confirmed cases of listeria infection in man in the United States between 1933 and 1964. He estimates[12] that about 75% of reported human cases from the world literature involve newborn infants. The most common manifestation seems to be meningitis in the first three weeks of life. Ray and Wedgewood have documented 63 case

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Listeriosis occurs with regularity in Missouri. It is found frequently among animals, especially cattle and sheep, and it is noted with increasing frequency among humans. The source of infection, however, is not clear despite distinct seasonal and geographic distribution patterns. Doctor Blenden is from the Department of Veterinary Microbiology, University of Missouri School of Veterinary Medicine; Doctor Silberg is from the Department of Community Health and Medical Practice, University of Missouri School of Medicine; and Doctor Gates is Veterinary Officer, USPHS, CDC Field station, Kansas City, Kansas.

reports of neonatal listeriosis and have summarized the clinical data on each.[13] Although unable to isolate listeria from 76 aborting women, Lawler[14] suggests that listeriosis be considered in patients with abortion.

Banner, *et al.*,[15] have reported a prenatal patient harboring the organism and the subsequent intrauterine death and delivery of a macerated infant infected with listeria. Hood[16] describes the isolation of listeria from the blood of seven pregnant patients and the gential tract of another, and he describes a Listeria-induced febrile illness in a woman in the sixth month of pregnancy. Blood cultures were positive for Listeria and the patient subsequently delivered during her seventh month. The infant developed meningitis but recovered with antibiotic therapy. Other papers further illustrate the versatility of this organism by producing meningitis.[17, 18] Gray, Seeliger and Potel[19] have described in some detail perinatal infections with *L. monocytogenes* and its effect on both mother and fetus. According to these authors, neonatal death, hydrocephalus and mental retardation seem to be possible sequelae for the infant. Controversy is expressed in this paper in regard to the effect of infection in a woman or her subsequent pregnancies.

The clinician or research worker should also be aware of additional references on listeriosis. Two international symposia have been held on listeriosis and have published proceedings.[20, 21] A third international symposium was held recently, and its proceedings will be published also at a later date. Also Seeliger[1] has published what is perhaps the most authoritative and concise reference work available.

These relatively recent reports seem to reflect the increased interest and awareness of listeriosis as an infection of the human being and its versatility in exhibiting a variety of lesions. Increased attention of the medical and veterinary clinician should be directed towards the disease. The apparently widespread distribution of the organism and its ability to mimic the clinical manifestations of other infectious agents may be responsible for the lack of clinical recognition. Difficulties in the isolation of the agent, described below, can only compound the confusion.

Specific Laboratory Diagnosis

The organism is a Gram-positive, non acid fast, non spore-forming rod, resembling the diphtheroids. They occur singly but may show a tendency to arrange themselves in "V" or pallisade formations. They are readily stained by the usual bacterial stains and are relatively small ($0.5\text{-}0.6 \times 1.0\text{-}3.0\mu$) in size. They are motile by means of peritrichous flagella.

The organism grows readily on simple trytose agars producing small opaque 1-2 mm colonies which, when examined by the method of Henry, tend to be blue-green in reflected light. They grow in 24-48 hours incubated at 37 C but will also grow at 4 C. They grow well on blood agar, and are hemolytic.[1]

The laboratory diagnosis of listeriosis is based on the isolation of the organism from spinal fluid, blood or meconium, or in fatal cases from the brain, liver and spleen. Isolations have also been made directly from the thoracic section of the spinal cord in two natural cases of listeric myelitis of sheep.[22] These three animals were involved in an outbreak in a sheep flock involving a total of 58 cases in a three month period, and they exhibited atypical symptoms.

Specimens are inoculated into tryptose broth or tryticase soy broth, or streaked on the same agars or blood agar plates. Selective media must be used with great care and with the understanding that Listeria growth may be inhibited in some cases. It should be noted that great difficulty is often encountered in isolating the organism from fresh clinical materials, and that specimens culturally negative when fresh, may grow large numbers of Listeria after the specimen has been refrigerated for several days, weeks or even months. Seeliger describes the cold enrichment method for isolation which should be employed in the routine clinical diagnostic work involving the possibility of this organism.

Direct stained smears of clinical material, notably the meconium of the newborn infected infant, may show large numbers of Gram-positive rods so that a presumptive diagnosis of listeriosis can be made.

Serological diagnosis is not a routine matter. Agglutinating (both H and O types) and complement fixing antibodies are developed to Listeria, but the organism possesses antigens also shared by *Staphylococcus aureus*, enterococci and other organisms. Serological tests must, therefore, be carefully evaluated, especially if the sample has not been cross-adsorbed with at least one of these organisms. Fluorescent antibody techniques for the staining of Listeria warrant further investigation for the rapid demonstration of the organism in clinical materials. Serological cross reaction must receive attention in this technique as well. The technique of Watson and Eveland[23] may serve to circumvent some of these problems particularly in the pleomorphoric forms sometimes observed in tissues.

Animal inoculation is another differential method of identification. *L. monocytogenes,* when dropped into the eye of a rabbit, often produces a severe purulent conjunctivitis in from one to three days.

Extent of Infection

A search of the records of the Missouri Division of Health reveals no recorded human cases of listeriosis in the last decade.[24] King and Seeliger[25] indicated in 1959 that three cultures of *L. monocytogenes* had been received from Missouri at the Communicable Disease Center, Atlanta, Georgia for confirmation. Further inquiry revealed that an additional six cultures of this organism were submitted to date.[26] No cultures have been submitted since that time. Seven of these nine cultures were submitted from hospitals or clinical pathology laboratories in St. Louis, one from Springfield and one from an unidentified source.

Barrett[27] in a study of serums from 105 selected Missouri veterinarians found that five (4.8%) contained agglutinins to Listeria after the serums had been adsorbed with *Staphylococcus aureus.* This finding is not at all surprising when one considers the results of Seeliger who found nearly one-third of 700 serum samples of healthy persons to contain antibodies against Listeria.

Sporadic cases of listeriosis in animals have been recognized in Missouri and many other states for a considerable period of time. The determination of the true incidence of listeriosis in animals is impossible at present, as there is neither adequate reporting of the disease nor accurate population figures with which to calculate rates.

Study of an Animal Necropsy Population

A retrospective study was conducted among the animals submitted for necropsy to the Diagnostic Laboratory, School of Veterinary Medicine, University of Missouri.

A total of 281 bacteriologically and histologically confirmed cases of listeriosis were recorded from January 1, 1954 through December 31, 1965. The annual occurrence of these cases ranges from ten cases in 1956 to 74 cases in 1965 (Table 1). The total cases which had been observed in 1965 reflected a substantial outbreak that occurred in a University of Missouri sheep flock. This outbreak occurred between the months of March-June of 1965 and accounted for 59 of the 74 recorded cases. Also of interest in Table 1 is the fact that 122 cases (43.4%) were in the bovine and 153 cases (54.4%) in the ovine species. A total of 275 cases (97.8%) were diagnosed in sheep and cattle with only scattered cases in dogs, turkeys, a pig and a rabbit. The excess numbers of cases in sheep and cattle could reflect greater exposure and susceptibility to listeriosis. Data are not presently available to support this assumption.

When these cases are tabulated by month of submission to the laboratory, a distinct seasonal cyclicity is noted (Fig. 1). The seasonal occurrence was in the late winter and spring. The highest percentages of cases of listeriosis among cattle and sheep for the years 1954-1965 occurred during the months of March and April. In fact over 60% of all cases were diagnosed during these two months alone. One ovine case submitted in August was known to have been chronic and the actual onset occurred in May. It is possible, therefore, that other cases submitted in the summer and fall actually had their onset in the spring months.

The diagnosis of listeriosis has been made in animals submitted from all major regions of the state of Missouri. Although cases have by no means originated from all counties of the state, neither have significant numbers of necropsies originated in many of the counties. As might

TABLE 1

TOTAL NUMBER OF CASES OF LISTERIOSIS,
NECROPSY DIAGNOSTIC LABORATORY
SCHOOL OF VETERINARY MEDICINE
UNIVERSITY OF MISSOURI
1954-1965
By Year and Species

Year	*Bovine*	*Ovine*	*Canine*	*Turkey*	*Porcine*	*Rabbit*	*Total*
1954	6	7				1	14
1955	10	11	2				23
1956	5	5					10
1957	8	12					20
1958	13	21			1		35
1959	14	7		1			22
1960	10	5		1			16
1961	12	8					20
1962	7	4					11
1963	11	7					18
1964	13	5					18
1965	13	61					74
Total	122	153	2	2	1	1	281

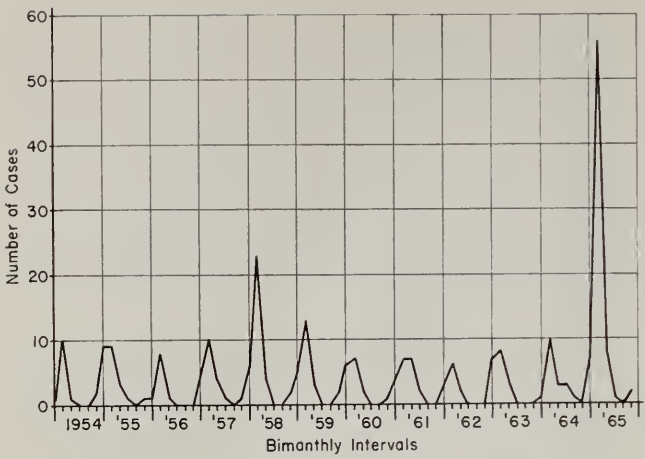


Fig. 1 Seasonal distribution of necropsy diagnosis of listeriosis in all species by year and bimonthly periods, University of Missouri School of Veterinary Medicine.

be expected, the majority of cases in our study have come from the central Missouri area, probably due in part at least to the proximity of the laboratory (Fig. 2). A general pattern is noticed in the counties of origin of these submissions, with most submissions coming from the northeastern quarter of the state. Whether this is due to greater risk of listeriosis, larger sheep and cattle populations, or merely greater use of the diagnostic laboratory cannot be stated until further study is made.

It is interesting to recall that the human cases in Missouri, as elsewhere, have been diagnosed in metropolitan areas. This is probably due in part to the large concentrations of persons and physicians, as well as the more complete laboratory facilities, which are found in such areas. This knowledge may also imply unknown reservoirs of infection, other than sheep and cattle.

Data on the age and sex distribution in this population have been collected but no rates could be calculated due to incomplete data on the total number of laboratory submissions. Generalizations as to relative susceptibility are not yet warranted. Since all age groups (newborn to over six years of age) and both sexes are represented among the animals studied, however, it is reasonable to state that all ages and both sexes are susceptible to infection under natural conditions.

Discussion of the Problem

There is little doubt regarding the occurrence of listeriosis in Missouri animals. With 281 cases recorded during the last 12 years at one diagnostic laboratory alone, it is reasonable to assume that there are far more cases occurring than are being recognized. Probably the great preponderance of cases in Boone County reflects a more realistic picture of the actual overall incidence since accessability to the laboratory is a big factor in whether or not animals are subject to necropsy. However, no conclusions can be drawn as to the actual incidence of listeriosis in Missouri animals from this selected necropsy population.

Generalizations can be drawn from the animal species involved in these post mortem diagnoses. That is, sheep and cattle apparently represent the most common hosts among the domestic animals. Although dogs, swine, horses, turkeys and chickens are also necropsied in large numbers, they are only rarely found infected. The late winter and spring distribution of diagnoses has been observed before and is borne out by these data in Missouri. It is interesting to speculate on the reasons for the distinct seasonal distribution of the necropsy diagnosis of listeriosis. It seems unlikely that some factor increases the likelihood of these cases being submitted at this time. It seems most feasible that there actually are greater numbers of cases occurring during this season. Accepting the hypothesis that these cases are related to the feeding of silage[28] which starts in the fall, it seems strange that cases do not occur until February. Perhaps the organisms in the silage, previously introduced, require a period of time to reproduce and reach a threshold concentration necessary to induce infection. Another possibility is that the disease has an extended incubation period, or even a latent

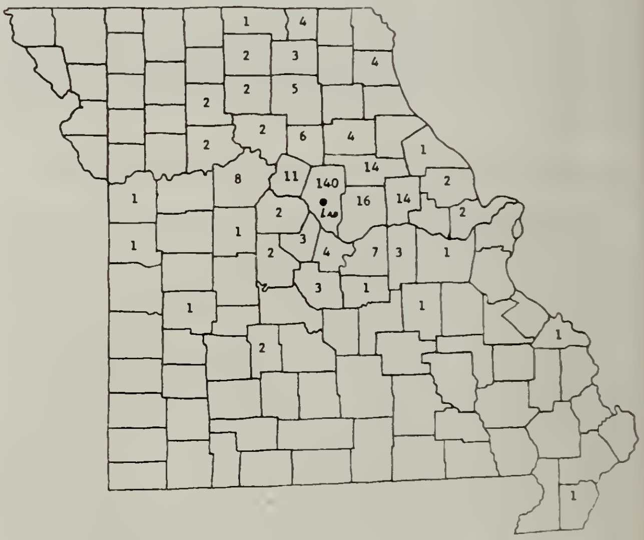


Fig. 2 Total number of cases of listeriosis in all species and by county of origin as seen by the Necropsy Diagnostic Laboratory, University of Missouri School of Veterinary Medicine, 1954-65.

period, and clinical infection is not evident until some stress factor to the host triggers its appearance. The source of infection for animals not receiving silage and for the human being, is still open to great question.

Differences also exist in the geographic origin of animals having the necropsy diagnosis of listeriosis. Data are not presently available to interpret the bias which is obviously present in a necropsy population, but geographic differences are suggested. These differences could be due to different geographic features and agricultural practices leading to increased animal population density and hence more listeriosis, or simply greater usage of the laboratory from the northeastern region. It is postulated that infection occurs in all major areas of the State.

Interesting problems remain in the epidemiology and pathogenesis of listeriosis in any geographic region. It is not known, for example, whether listeriosis should be regarded as a zoonotic and hence an occupational disease for persons in direct or indirect contact with animals. It is important to determine the factors that make *L. monocytogenes* difficult to isolate and whether this factor in any way relates to latency of the disease. Since it is difficult to imagine a diagnostic routine of refrigerating tissue and reculturing at weekly intervals, it should be determined how this difficulty affects the distribution of cases and the actual probability of making a diagnosis in humans and animals. Are normal carriers and sub-clinical cases an important reservoir for the perpetuation of the disease in animals and humans? What is the actual source of infection for animals, and the source for humans who have no history of domestic animal contacts? How much neonatal death, hydrocephalus and mental retardation can be attributed to "silent" listeria infections during pregnancy in women? These are the questions that must be answered before we can better understand the epidemiology of this disease.

Physicians and veterinarians alike should be on the alert for the manifestations of this infection. The characteristics of listeriosis that are known today, with all their uncertainties, indicate that the disease is being found wherever it is looked for, and may actually be a more important disease than now recognized. Improved technology and awareness are necessary before the true impact can be measured.

Summary

Listeriosis in humans is being reported in increasing numbers, probably due to increased awareness and description rather than a real increase in incidence. The disease is prevalent in Missouri animals and each year a new series of cases results. A review of the literature reveals the ubiquitous nature of the organism and its versatility in producing different clinical manifestations. The organism is generally easy to grow on ordinary media, with one exception. The exception in ease of isolation is related to the peculiar characteristic of being difficult to isolate from fresh materials, a factor that may mask many cases of the disease. Another problem is that the organism may often be recognized in the diagnostic laboratory as a "diphtheroid" and, therefore, discarded as having no significance. Furthermore, serological examinations must be interpreted with caution as *L. monocytogenes* cross reacts with other commonly occurring organisms.

The reservoirs and transmission of the disease are obscure. The source of both human and animal infection is not clear, and there is no conclusive evidence as to either common sources or transmission between man and animals. There is evidence that the disease occurs with regularity in Missouri cattle and sheep and that there is a distinct seasonal and geographic distribution. Several questions as to the epidemiology of listeriosis have been raised and the need for further research is obvious.

Acknowledgement: The authors are indebted to Drs. Loren D. Kintner and Emmett L. McCune, School of Veterinary Medicine, University of Missouri, for making their necropsy records available for this study.

Bibliography

1. Seeliger, H. P. R.: Listeriosis. 3rd edition, Hafner Publishing Company, Inc., New York, 1961.
2. Murray, E. G. D., Webb, R. A. and Swann, M. B. R.: A Disease of Rabbits Characterized by a Large Mononuclear Leucocytosis, Caused by a Hitherto Undescribed Bacillus: *Bacterum monocytogenes*. J. Path. Bact., 29:407-439, 1926.
3. Pirie, J. H.: A New Disease of Veldt Rodents. Publs. S. African Inst. Med. Research, 3:163-186, 1927.
4. Pirie, J. H.: Listeria: Change of Name for a Genus of Bacteria. Nature, 145:264, 1940.
5. Winn, J. F., Cherry, W. B. and King, E. O.: Listeriosis: A Potential Public Health Problem. Ann. N.Y. Acad. Sci., 70:624-631, 1958.
6. Gray, M. L., Thorp, F., Nelson, R. and Sholl, L. B.: Listeriosis in Sheep of Michigan. M.S.S.D. Vet., 7:161-164, 1947.
7. Osebold, J. W., Kendrick, J. W. and Njoku-obi, A.: Cattle Abortion Associated With Natural *Listeria monocytogenes* Infection. JAVMA, 137:221-233, 1960.
8. Osebold, J. W. and Cordy, D. R.: Endocarditis Associated with *L. monocytogenes* Infections in Sheep. JAVMA, 143:990-993, 1963.
9. Gray, M. L.: Listeriosis in Fowls—A Review. Avian Dis., 2:296-314, 1958.
10. Scholtens, R. G. and Brim, A.: Isolation of *Listeria monocytogenes* From Foxes Suspected of Having Rabies. JAVMA, 145:466-469, 1964.
11. Richardson, J. and Pittman, B.: Unpublished Data, 1965.
12. Gray, M. L., *et al.*: Listeriosis: A Round Table Discussion. Health and Laboratory Science (APHA), 1:261-272, 1964.
13. Ray, C. G. and Wedgewood, R. J.: Neonatal Listeriosis—Six Case Reports and a Review of the Literature. Pediat., 378-392, 1964.
14. Lawler, F. C., Wood, W. C., King, S. and Metzger, W. I.: *Listeria monocytogenes* as a Cause of Fetal Loss. Am. J. of Obst. and Gynec., 89:915-923, 1964.
15. Banner, E. S., Johnson, T. R., Onstad, G. R., Weed, L. A.

and Sayre, G. P.: *Listeria monocytogenes* in Pregnancy: Report of a Case. Mayo Clinic Proceedings, 39:919-926, 1964.

16. Hood, M.: Present View of Listeric Infections in Man. In Gray, M. L.: Second Symposium on Listeric Infection, Bozeman, Montana, 279-283, 1963.

17. Claypool, B. W., Wellman, W. E., Needham, G. M. and Achor, R. P.: *Listeria monocytogenes* Meningitis: Brief Review of the Literature and Report of a Case. Mayo Clinic Proceedings, 35:609-614, 1960.

18. Sarracino, J. B. and Graziani, L. J.: A Case of Listeria Meningitis Encountered During an Epidemic of Viral Meningitis. Military Medicine, 787-791, August, 1963.

19. Gray, M. L., Seeliger, H. P. R. and Potel, J.: Perinatal Infections Due to *Listeria monocytogenes;* Do These Affect Subsequent Pregnancies? Clinical Pediatrics, 2:614-623, 1963.

20. Rotts, E. and Strauch, D.: Listeriosen. Paul Parey, Berlin and Hamburg, 1958.

21. Gray, M. L.: Second Symposium of Listeric Infection. Montana State College, Bozeman, 1962.

22. Gates, G. and Blenden, D. C.: Unpublished Data, 1965.

23. Watson, B. and Eveland, W., 1965.

24. Price, E. R.: Personal Communication, 1965.

25. King, E. and Seeliger, H. P. R.: Serological Types of *Listeria monocytogenes* Occurring in the United States. J. Bact., 77:122-123, 1959.

26. Winn, J. F.: Personal Communication, 1965.

27. Barrett, J. P.: Unpublished Data, 1959.

28. Gray, M. L.: A Possible Link in the Relationship Between Silage Feeding and Listeriosis. JAVMA, 136:205-208, 1960.

Medical Education (Cont'd)

clinical years so that all information gained in the basic sciences contributes to the understanding of health and disease and can be called upon to understand and combat pathology. It is all very well to maintain that a medical school lives by its research. This is certainly so insofar as the acquisition of funds is concerned, but if the school is so directed toward research for research's sake that the patient as a human being is forgotten and the education of students to care for human beings as their primary function is de-emphasized, the students will be ill prepared to deal with the problem which will emerge in the next five to ten years. None of this is to say that a scientific orientation to medicine should be soft-pedaled, or that there should not be excellent training in the basic sciences. On the contrary, this is essential to any good medical program, but the first mission of any school of medicine is to educate young men and women to treat the sick intelligently, scientifically and humanely. Everything is secondary to this.

In the light of what I have tried to say, I would set down as the objectives of our medical school to develop the following competencies and skills and attitudes in the students which they can apply as physicians:

a. The capacity to solve problems by use of the scientific method.
b. An awareness of medical science source material.
c. An awareness of the social, economic and psychological aspects of health and disease, including an awareness of the significance of family dynamics.
d. A capacity to make decisions based on keen observation and analysis of the observed facts.
e. A fund of basic medical and other knowledge appropriate to our changing society, with emphasis on understanding principles, not merely acquisition of facts and essential medical skills.
f. The capacity to relate emphatically to patients and the ability to function both as a member and as a leader of the health professional team.
g. The continuing motivation to learn, not only in the narrow field of one's special interest, but in the broad field of medicine and the sciences basic to it.
h. A sense of personal responsibility and a professional commitment to the point that the patient comes before all else in the life of the physician and his responsibility becomes, in effect, his sacred duty.
i. The development of interest beyond the field of medicine so that the young physician will continue to grow in breadth and depth in other fields of human relations, to the end that he becomes not only a good citizen but a leader of good citizens. We must instill in our students flexibility so that they will be able to adapt to the changing times and technologies which will come all too rapidly during their professional lifetime.

St. Louis University is, as I have said, deeply concerned with the broadest possible growth and development of her medical students. We do feel, however, that our special area of concern should be the preparation to be the finest possible practitioners of medicine, scientifically oriented and able to inquire critically into little understood or unknown phenomena.

President's Message

In place of his regular President's Message, the Editors *have asked Doctor Stuart to permit publication of the following remarks which he delivered earlier this year to Junior medical students at the University of Missouri School of Medicine. Many physicians long removed from medical school may gain new enlightenment and new insight from Doctor Stuart's concise treatise on the structure and purpose of medical organization.*

Byron M. Stuart, M.D.

I'm grateful for the opportunity to be here today and to tell you a little about what is called "organized medicine."

Some people, perhaps some of you, have an impression of "organized medicine" as being the politics of medicine—politics both within the profession itself and as it concerns various governmental bodies. Some of you may even feel that this is a somewhat distasteful aspect of the medical profession—something to be avoided—something which interferes with your real mission to practice the art and science of healing.

Let me dissuade you, for *organized medicine in the long run is what maintains the profession of medicine as a profession.* It is through organized medicine that standards of ethics are set and applied. It is through organized medicine that general policies are developed to guide physicians in their relationships with patients, with fellow practitioners, with the public and, increasingly, with government. It is through organized medicine that physicians, relatively few in total numbers, can make their influence felt and can take action to advance and protect the interests of their patients when that becomes necessary.

How does organized medicine function? Suppose we start with the organizational structure of the various levels of medical society activity—local, state and national.

First, of course, we have the county medical society—a group of medical doctors banded together in a particular locality by reason of common problems, geographical proximity and a desire to work together as an organization toward certain mutual objectives. Here in Missouri we have 51 local societies—some large, some small, making up the Missouri State Medical Association. Nationally, there are more than 1,900 such local groups.

Each county society, which, incidentally, may encompass four or five counties in lower population areas, has within it a number of functioning parts: committees to deal with specific responsibilities, staff personnel or members who take the responsibility for various services to the public.

Some people have a mistaken notion that a county medical society merely carries out medical policy originated at the state or national levels. Nothing could be further from the truth. In fact, it is largely the other way around. A local society determines its own course of action with respect to controversial policy matters. Then, through representation in the state and national organizations, the local group helps to set policy on the higher levels.

In addition, of course, the county society performs many distinctly localized functions, in such things as medical ethics, grievances, hospital relations and the like. Some of the larger societies, such as those in St. Louis and Kansas City, employ full-time administrators as well as clerical personnel to look after the thousand-and-one details of their diversified activities. Most of the smaller societies elect a member-physician to serve as secretary and administrator for the organization.

In general, three features apply to all county societies regardless of size:

1. The society serves as a local center for dissemination of scientific information. For example, local societies may conduct regularly scheduled meetings at which medical topics are discussed. In some instances the society also publishes a medical news bulletin for its members.

2. Each society elects its own officers, including delegates to the state association's governing body. In Missouri this is the House of Delegates.

3. Within certain broad limits, each society establishes its own membership eligibility requirements and rules upon applications for membership. In this regard, as I'm sure you are aware, the by-laws of most private hospitals specifically state that a physician, in order to be granted privileges in that hospital, must be a member in good standing of his local medical society.

Moving on to the next level of organization, we have the state medical associations. In general these, including the Missouri State Medical Association, can be characterized as a confederacy of county medical societies.

In point of time, local medical societies originated first, and later the American Medical Association was founded. It soon became apparent that neither local groups nor the national organization afforded a satisfactory mechanism for dealing with the majority of medical and legislative problems. As a consequence state associations came into being. Today the state association is the keystone of the medical organizational structure, since it is the state association that charters the local societies and the state associations which band together to make up the national organization. A physician who becomes a member of his local county medical society in Missouri is automatically a member of the Missouri State Medical Association. He cannot be a member of the Missouri State Medical Association without holding membership in a county society.

At present, the Missouri State Medical Association has a staff of eight employees headed by Ray McIntyre, our Executive Secretary. The Association office handles a great variety of matters, including the publication of a monthly scientific journal, MISSOURI MEDICINE, and such activities as the Medical Student Loan Fund program. MSMA also operates a statewide physician placement service, which can be helpful to physicians seeking a location and to communities in search of a doctor.

Of all MSMA activities, however, perhaps the two most important from the standpoint of the individual physician-member, are:

1. The work of 29 different Association committees whose job is to help develop considered policy in specific areas, to promote various programs in the interest of the public's health and to keep physicians abreast of current developments in such areas as maternal welfare, medical economics, problems of the aging, etc. *The work of these committees in advancing the science of medicine and safeguarding public health cannot be over-emphasized.*

2. The Association's legislative effort on behalf of public and physicians alike. As healers of the sick, I'm sure that every one of us would rather devote our full energies to that task, leaving social and political questions to others. This we cannot do because the social and political questions we face today closely affect all of us and all of our patients. It is part of a physician's responsibility as a physician to take an active part in civic and governmental affairs. It is a part of the responsibility of physicians' organizations to maintain active interest in local, state and federal legislation that relates to the public's health and welfare and to support or oppose specific proposals as this becomes necessary. *Because more and more legislative action is affecting the whole fabric of medical care, the state Association's legislative program should be a vital concern of every physician.*

Organizationally, the Missouri State Medical Association functions in this manner:

The state is divided into 10 geographical districts, each represented by a Councilor. The Council meets periodically throughout the year to review all facets of MSMA operation and to take action on current programs and problems. The Council also passes upon the appropriation of funds for various activities and sets interim policy. It is, in effect, the executive board of the Association.

The major governing body, in turn—the group which establishes over-all policy at the state level—is the MSMA House of Delegates. Delegates convene each year, concurrently with the Association's annual scientific assembly.

The House of Delegates consists of elected representatives of the various county medical societies throughout the state. These delegates, much like our representatives in government, present resolutions on behalf of their constituents for consideration by the House. Through this democratic process, programs and policies of the state association should reflect the opinions and wishes of the physicians in the state.

The third level of organized medicine is the American Medical Association, founded in 1847. You have probably heard a great deal about the AMA in its role as medicine's powerful voice at the national level. I'm sure that some of what you have heard has been uncomplimentary. Terms such as "mossback," "head in the sand," "opponent of progress."

Many times, of course, the position that the AMA has taken has not been a popular position, politically. In many cases, what is best for the common good and for the individual over the long run, is not what receives popular acclaim for the short view. I think critical and objective examination will bear out, however, that what the American Medical Association and the medical profession have stood for in the past has been in the general public interest in virtually every instance.

In contrast to the headlines on AMA legislative activities, the quiet scientific aspect of AMA operations often goes unnoticed. There are more than 40 AMA councils, committees, bureaus and departments—the majority of which are concerned with the science of health. There is, for example, the Council on Drugs which for over a half-century has worked with great success to insure drug safety and effectiveness. It was this group, in fact, that actually paved the way for passage of the basic pure food and drug laws we have today.

AMA supports a Council on Foods and Nutrition, a Council on Medical Physics, a Council on Medical Education, a substantial and active program in basic research, and so on through the entire spectrum of medical technology and training. To communicate information from these and many other sources to physicians worldwide, AMA publishes nine specialty journals each month in addition to the weekly *Journal of the American Medical Association (JAMA)*.

To provide these and other services to physicians and the public, AMA employs some 700 people at its Chicago headquarters and elsewhere. In addition, literally thousands of member-physicians volunteer their time and effort to serve the AMA and its members in many capacities.

This is, of course, a very superficial outline of the structure and function of organized medicine. I hope it will inspire you, however, to look further into the subject, to learn more about the issues with which organized medicine is now concerned and with which it has grappled in the past. The time is not so distant before you too will become a part of organized medicine.

Let me offer, then, a final commentary on what you—as a doctor who will help to chart medicine's course in the future—can contribute to the advancement of a great profession.

First, in terms of membership in your local, state and national medical societies, I would urge you to take an active role in making those organizations ever more dynamic and responsive to the changing health needs of our times. Let the president know you are anxious to serve—even offer to accept a committee job. Take an active part in the discussion at meetings. Ask questions. Make suggestions. Be willing to take responsibility for the jobs which result from your suggestions.

Secondly, in terms of state and national affairs, recognize that we as physicians—and as citizens—are faced with a changing world. The Medicare program and other government programs have made and will make a difference in the way medicine is practiced, and there are many other influences which will affect the provision of health care. I would urge you to be cognizant of the social changes that are taking place and those that are advocated. And being thus aware, I would urge you as a citizen to become fully active politically. Become active and influential, not only through medical organizations, but as an individual as well, particularly through the party of your choice. *If the interests of the people are truly to be protected, it is essential that physicians take the lead in political affairs when health care is concerned.*

Finally, I would urge you to enter into medicine with confidence, enthusiasm and optimism. The medical profession today faces many complex challenges—but, so it did in the day of Hippocrates, of Jenner, of Pasteur. With intelligence, with vigor, with application, medicine can and will meet today's challenges.

We look forward to having *your* help.

Woman's Auxiliary

For many years our standing committee on Mental Health has presented a real challenge to Auxiliary members on the national, state and local level. The development of the rapid treatment center program in Missouri, with shorter periods of hospitalization for patients and increased responsibilities for communities in which the centers are located, increases the importance of our work in mental health.

Mrs. Wallace R. Stacey

Hundreds of hours of volunteer service have been given by Auxiliary members. Over the years our efforts have been spread over a broad span of projects . . . encouraging 26 Missouri radio stations to "air" the record series, "Mirror to the Mind"; organizing ward parties in mental hospitals; sponsoring "Operation Santa Claus"; etc. Much national recognition has come to us for our pioneering work in suicide prevention.

This year the mental health program emphasis is being placed on the subject, "Health of Children and Youth of School Age." Films, booklets and other program materials are being channeled by the doctor's wife to parents, educators and any professional or lay group which is interested in child health.

KNOW YOUR AUXILIARY, Doctor, and encourage your wife to be a part of this dynamic effort!

EDITORIALS

YE GODS! WHAT'S HAPPENING?

We doctors have often been blamed for the complicated and obscure terminology we apply to medicine. Some of this blame is quite justified; some of it stems from ignorance of Latin and Greek roots, prefixes and suffixes; some of it from plain ignorance. All of this blame, however, is understandable. More difficult to understand is what is happening in today's ordinary English.

The first remembrance we have of a current revolution in language is that people ceased to "complete" and had to "finalize" everything. There may be some virtue in finalizing, but we doubt that substituting a rather awkward three syllable word for a comfortable and smooth two syllable one finalizes very much.

It was not long afterward that such stalwarts of rhetoric as "performance" and "maintenance" began giving way to "performability" and "maintainability." The fact that meanings were hardly the same did not mean that the words were not used the same and they were, again, several syllables longer.

Although the foregoing seemed to be a sort of spontaneous literary combustion, things really got going when linguistic fallout from NASA began, which agency seemed determined to invent an entirely new language for itself. For us, to use their own words on them, we would think it preferable to go into a smooth and euphonious "orbit" than to flop about in a jerky "circularization," a term NASA seems to love dearly. And, whatever we do which might fall beneath the scrutiny of that expensive agency, we would much rather do it with our good "posture" than with their "attitudinization," a term which almost seems one they would rather fight over than switch from.

We know that change is inevitable, even when it is not all good. It seems that human behavior must yaw widely in order to average a reasonably true course. In language, however, we thought the British capable of sounder judgment than most, and we were woefully shook up to read in a recent copy of the *New England Journal of Medicine* that the author of "By the London Post" agreed that Lord Moran had erred in violating the "confidentiality" of his medical relationship with Sir Winston Churchill. In fact, this terrible word cropped out twice, just to make sure the first time was no accident.

Regardless of this impeccable source, I feel I must take you into my confidentiality and say I think it's damn poor English.

WILFRED E. WOOLDRIDGE, M.D.
Bulletin of the Greene County
Medical Society
July 1966

SIMPLE PSYCHE SAVER

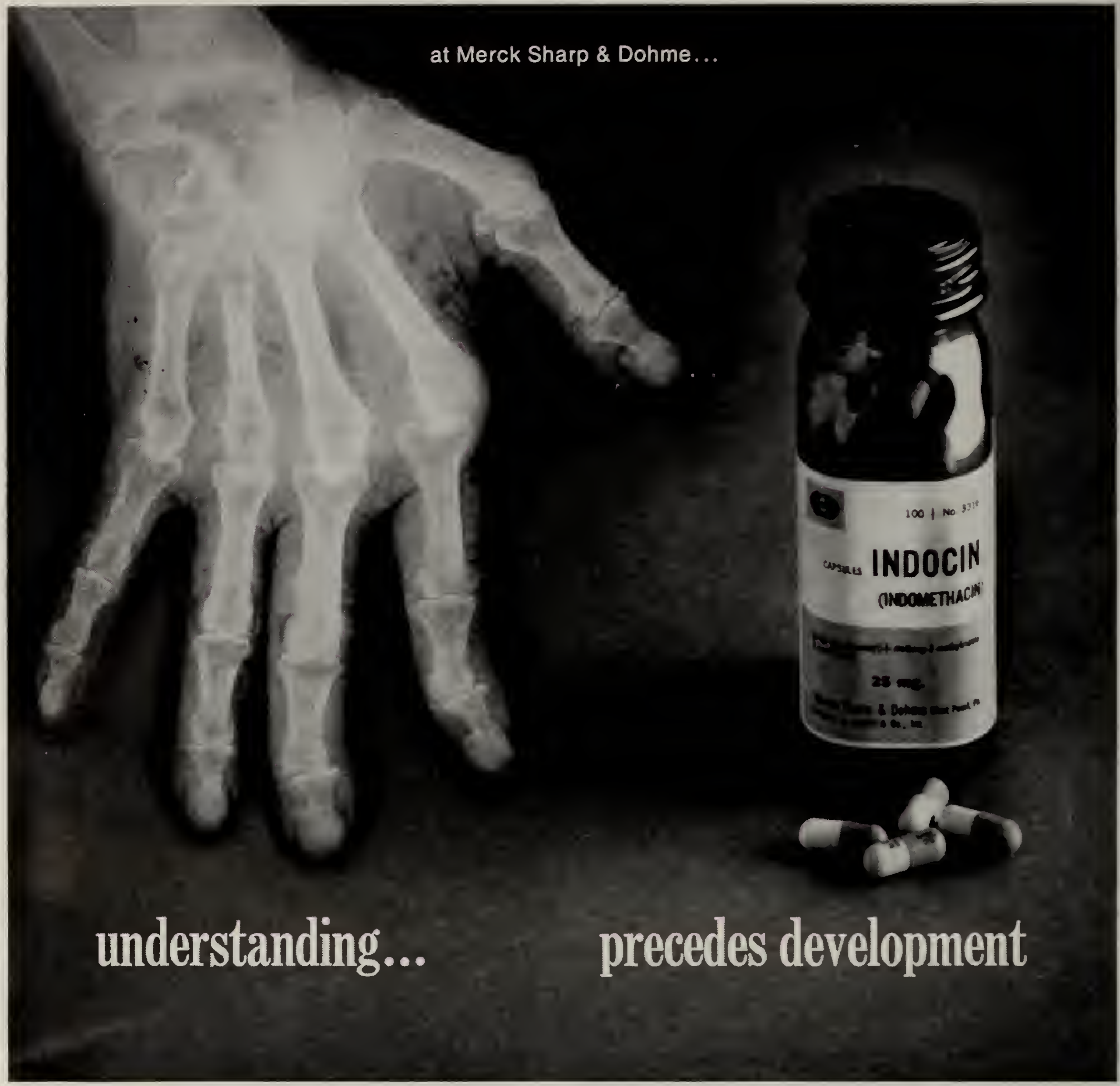
We all have our favorite devices for relaxing tensions, keeping bowels regular and generally staying serene. One guy may kick dogs or another prefer to commune with "John Barleycorn," but our worthy colleagues who deal with the psyche tell us everyone needs their tension outlets for good mental health.

Personally, I've found the best soul catharsis when bugged is to bug someone else. If I can shock somebody, I immediately regain composure, but, alas, this is becoming harder and harder to do. Society is becoming so sophisticated and urbane that almost nothing shocks. Swearing in front of ladies no longer raises eyebrows since the ladies usually peruse best sellers that make my feeble attempts at profanity pale. And one can't even develop "bad character traits" anymore as they are accepted as the consequence of "overwork" or "bad family situation" or "too much pressure," etc.

Well, I'm not about to surrender my hold on good mental health and after much thought I've come up with the following which will still provoke your neighbor. I hope other devotees of human harassment may benefit.

1. Pretend you don't want your son to play little league baseball. (Obviously, you will have to pretend since one who really feels this way is sick.)
2. Buy a painting for the sole reason you like it.
3. Fail to own a hi-fi set.
4. Buy an American flag and display it on patriotic occasions. (If unfamiliar with the word patriotic, consult an older edition dictionary.)
5. Enjoy Walt Disney movies.
6. Discipline your children (an archaic practice that will get you classed as a sadist).
7. Don't fertilize your lawn.
8. Act sentimental (often people just think you are senile).
9. Be Honest (This is ultimately the most rewarding of all. People go crazy wondering "what you are up to.")
10. Be courteous (this actually frightens people).

TERRY R. DENISON, M.D.
Greater Kansas City Medical Bulletin
July 23, 1966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Indications: Chronic and acute rheumatoid arthritis, rheumatoid (ankylosing) spondylitis, degenerative joint disease (osteoarthritis) of the hip, and gout.
Contraindications: Active peptic ulcer, gastritis, regional enteritis, or ulcerative colitis. Safety in pregnancy has not been established. Not recommended for pediatric age groups.
Warning: Patients who experience dizziness, lightheadedness, or feelings of detachment on INDOCIN should be cautioned against operating motor vehicles, machinery, climbing ladders, etc. Use cautiously in patients with psychiatric disturbances, epilepsy, or parkinsonism.
Precautions and Adverse Reactions: Most commonly, headache, dizziness, lightheadedness, G.I. disturbances. The C.N.S. effects are often transient and frequently disappear with continued treatment or reduced dosage. The severity of these effects may occasionally require cessation of therapy. G.I. effects may be minimized by giving the drug with food or with antacids or immediately after meals. Ulceration of the stomach, duodenum, or small intestine has been reported and, in a few instances, severe bleeding with perforation and death. Gastrointestinal bleeding with no obvious ulcer formation has also been noted; INDOCIN should be discontinued if G.I. bleeding occurs. As a result of G.I. bleeding, some patients may manifest anemia, and for this reason periodic hemoglobin determinations are recommended. Rare reports of effects not definitely known to be attributable to INDOCIN include bleeding from the sigmoid colon (either from a diverticulum or without a known previous pathologic condition), perforation of preexisting sigmoid lesions (diverticulum, carcinoma), and hematuria. In other rare cases, a diagnosis of gastritis has been made while the drug was being given. One patient developed ulcerative colitis, and another, regional ileitis, while receiving INDOCIN; when the drug was given to patients with preexisting ulcerative colitis, there was an increase in abdominal pain. Infrequently observed side effects may include drowsiness, tinnitus, mental confusion, depression and other psychic disturbances, blurred vision, stomatitis, pruritus, edema, and hypersensitivity reactions. Slight BUN elevation, usually transient, has been seen in some patients, although the preponderance of evidence indicates that INDOCIN does not adversely affect renal function, even in patients with preexisting renal disease. Nevertheless, renal function should be checked periodically in patients on long-term therapy. Leukopenia has been seen in a few patients. Transient elevations in alkaline phosphatase, cephalin-cholesterol flocculation, and thymol turbidity tests have been observed in some patients and, rarely, elevations of SGOT values; the relationship of these changes to the drug, if any, has not been established. As with any new drug, patients should be followed carefully to detect unusual manifestations of drug sensitivity. Before prescribing or administering, read product circular with package or available on request.

Editorials (Cont'd)

CHALLENGE

AMA Volunteer Physicians for Vietnam is a program for supplying medical care to the civilian population of South Vietnam through the volunteer services of U. S. Physicians. It is administered by the American Medical Association and financed by the United States Agency for International Development (USAID).

Twenty-five years of war and insurrection have placed tremendous health burdens on the people of South Vietnam. To the ever-present diseases and malnutrition, which are considered a "normal" part of life in that part of the world, have been added the burdens of war casualties, disruption of such limited public health measures as may have existed and a serious shortage of doctors and nurses. Of South Vietnam's approximately 1,000 physicians only about 350 remain to serve the estimated 15-million civilian residents. The bulk of the doctor corps has been called into military service.

It was out of this situation that South Vietnamese authorities appealed to the United States for American physicians to volunteer their services. American doctors who decide to participate in the program serve a 60-day tour of duty at one of 16 provincial civilian hospitals. (See February 1966, Missouri Medicine, *Viet Nam: Land of Medical Need,* William J. Shaw, Sr., M.D.) The volunteer receives his transportation and an expense allowance of $10 per day. The hospital where he serves is probably in a rural area and its facilities are unbelievably overloaded . . . two and even three patients in a single bed! All hospitals are located in "pacified" regions. These are areas where the Viet Cong do not routinely conduct military operations . . . at least, not in the open or on a regular basis.

But the American volunteer will face medical challenges in South Vietnam which most of his colleagues back home have seen only in textbooks. And he will return home (according to those who have been there) with a sense of contribution and fulfillment which is difficult to describe.

From 24 to 32 physicians are needed every month to keep the South Vietnamese hospital staffs at full strength. Most needed are general practitioners, internists, general surgeons and orthopedic surgeons. The latter two categories are needed to treat war-wounded civilians. Other specialties are in lesser demand, but inquiries are invited nevertheless. Because of living conditions only male physicians are accepted for the program.

Additional information may be obtained from:

AMA Volunteer Physicians for Vietnam
American Medical Association
535 North Dearborn Street
Chicago, Ill. 60610

In Memoriam

Underwood, Millard K., M.D., Rolla, a graduate of the Medical College of Virginia, 1937; member of Mid-Missouri County Medical Society; aged 72; died May 20, 1966.

Brownfield, Samuel T., M.D., Brookfield, a graduate of Washington University, 1904; member of Grand River County Medical Society; aged 90; died May 21, 1966.

Sutphin, John B., M.D., Ferguson, a graduate of the University of Rochester, 1942; member of St. Louis County Medical Society; aged 45; died June 20, 1966.

Levin, Sidney S., M.D., St. Louis, a graduate of National University of Arts and Science, 1917; member of St. Louis Medical Society; aged 76; died June 25, 1966.

Rosen, Charles, M.D., St. Louis, a graduate of St. Louis University, 1923; member of St. Louis Medical Society; aged 69; died July 3, 1966.

Rusk, Earl M., M.D., Camdenton, a graduate of Beaumont Hospital Medical College, 1901; member of Callaway County Medical Society; aged 89; died July 13, 1966.

Sewell, Walter S., M.D., Springfield, a graduate of St. Louis University, 1921; member of Greene County Medical Society; aged 69; died July 17, 1966.

Kyger, Fred B., M.D., Kansas City, a graduate of the University Medical College of Kansas City, 1908; member of Jackson County Medical Society; aged 80; died July 18, 1966.

Roberts, Sam E., M.D., Shawnee Mission, Kansas, a graduate of Kansas University; 1911; member of Jackson County Medical Society; aged 79; died July 18, 1966.

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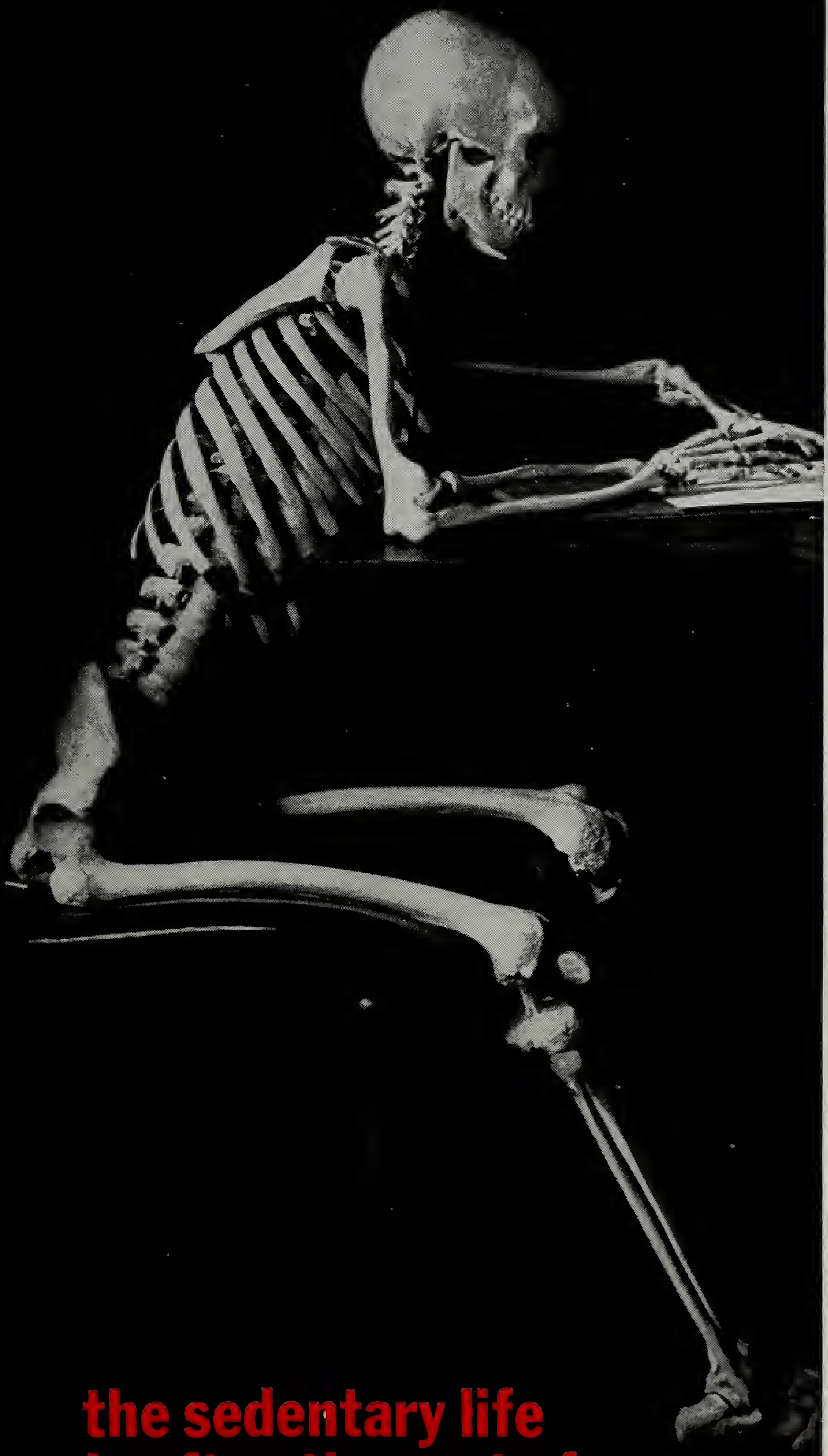

the sedentary life is often the seat of low back pain

The human spine is not engineered for prolonged sitting at desks, pianos, typewriters and drafting boards. The stresses set up by the heavy, forward-tilted head and trunk, balanced precariously on an insufficient base, result in strain of the dorsal musculature, particularly at the low lumbar level.

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Indications: 'Soma' is useful for management of muscle spasm, pain, and stiffness in a variety of inflammatory, traumatic, and degenerative musculoskeletal conditions. It also may act to normalize motor activity in certain neurologic disturbances.

Contraindications: Allergic or idiosyncratic reactions to carisoprodol.

Precautions: 'Soma', like other central nervous system depressants, should be used with caution in patients with known propensity for taking excessive quantities of drugs and in patients with known sensitivity to compounds of similar chemical structure, e.g., meprobamate.

Side Effects: The only side effect reported with any frequency is sleepiness, usually on higher than recommended doses. An occasional patient may not tolerate carisoprodol because of an individual reaction, such as a sensation of weakness. Other rarely observed reactions have included dizziness, ataxia, tremor, agitation, irritability, headache, increase in eosinophil count, flushing of face, and gastrointestinal symptoms.

One instance each of pancytopenia and leukopenia, occurring when carisoprodol was administered with other drugs, has been reported, as has an instance of fixed drug eruption with carisoprodol and subsequent cross reaction to meprobamate. Rare allergic reactions, usually mild, have included one case each of anaphylactoid reaction with mild shock and angioneurotic edema with respiratory difficulty, both reversed with appropriate therapy. In cases of allergic or hypersensitivity reactions, carisoprodol should be discontinued and appropriate therapy initiated. Suicidal attempts may produce coma and/or mild shock and respiratory depression.

Dosage: Usual adult dose is one 350 mg. tablet three times daily and at bedtime.

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COMMENT . . .

Our Readers Write

Political Involvement

To the Editor:

I am addressing this to about 90% of the members of the Missouri State Medical Association . . . those members who have donated NOTHING to the Missouri Medical Political Action Committee (MMPAC) or to the American Medical Political Action Committee (AMPAC). I have to assume that these are physicians who are either: (1) so blind that they can't see the ever-increasing government encroachment on the private sector of our society, (2) so apathetic that they don't care that individual rights and liberties are being slowly spirited away or (3) so pessimistic that they concede the ultimate victory of the Let-The-Government-Do-Everything philosophy.

It is no disgrace to be interested in and active in politics. Your community looks to doctors, lawyers, educators, business executives, etc. for leadership in its numerous civic enterprises and in the maintenance of good government. You, as a physician, should feel a personal responsibility to exercise such leadership . . . to be able to give an intelligent, honest and temperate "sales pitch" in support of your chosen political philosophy or candidate, regardless of party label.

Medicare is with us. But the final medicare plan might have been much more palatable to the physicians of this country if just 23 out of 427 congressmen had voted differently on one key vote. I suggest that those 23 votes . . . maybe more . . . were forfeited because too few physicians took an active interest in getting out the vote for "friendly" candidates.

I am urging every physician who considers himself a medical scientist to get interested in and involved in the science of government (politics!). You can start by joining MMPAC. That's easy. All it requires is a check.

Then you can REALLY get involved by contacting your precinct committeeman or other active party worker and finding out what you can do to help elect candidates who truly reflect your own political views. Each of you and members of your family, working in your own precinct, can make a big difference in the votes which will be counted this year and in the years to come.

Incidentally, I have already sent my MMPAC dues check to:

James C. Sisk, M.D., Treasurer
Missouri Medical Political Action Committee
1015 Cotton Belt Building
111 North Fourth Street
St. Louis, Missouri 63102

How about you?

Sincerely,
Doyle C. McCraw, M.D.
Bolivar

(Dr. McGraw is Councilor from the 8th District of MSMA and Vice-Chairman of the Council, immediate Past President and Chairman of the Board of the Missouri Academy of General Practice, a former three-term Mayor of Bolivar and Chairman of the Healing Arts Committee for Better Government. ED.)

PICTORIAL ROSTER?

Dear Dr. Finnegan:

Congratulations on your Roster, 1966 Directory Issue.

For years, our office has found these most useful.

I would like to offer one suggestion. In my opinion, the usefulness of this issue would be greatly augmented by making it a pictorial roster. Jackson County Medical Association has such a pictorial roster. I assume that St. Louis and St. Louis County Medical Societies have such also.

Ten years ago, this suggestion fell on deaf ears, the excuse being expense.

In my opinion, this would be a very effective method of our Society's offering a concrete and practical service to its members. Although expensive, each member in this case would see the results.

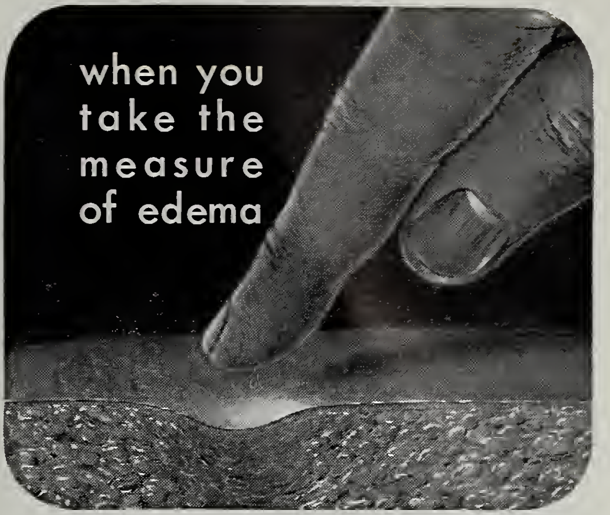
Sincerely,
Williston P. Bunting, M.D.
Kansas City

WANTED

Scientific papers relating to clinical investigation, basic medical science or clinical medicine. Papers should be planned with 10-minute "in person" presentation in mind. Authors of selected works will be invited to present their papers at the 109th Annual Session of the Missouri State Medical Association . . . April 6-9, 1967 . . . Chase-Park Plaza Hotel . . . St. Louis.

Send abstracts to:

John I. Matthews, M.D., Secretary
Missouri State Medical Association
515 East High St.
Jefferson City, Mo. 65101



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DIURETIC ACTION: Clinically, the oral administration of AQUATAG (benzthiazide) results in diuretic activity within two hours with maximal natriuretic, chloruretic, and diuretic effects occurring during the fourth, fifth and sixth hours. Maintenance of response continues for approximately 12 to 18 hours. Acidosis is an unlikely complication since therapeutic doses of AQUATAG (benzthiazide) do not appreciably increase bicarbonate excretion. Edematous patients receiving 50 mg. of AQUATAG (benzthiazide) daily for five days developed a maximal increase in the rate of sodium excretion on the first day, and maintained this high rate until depletion of excessive body stores of sodium.

In congestive heart-failure patients, AQUATAG (benzthiazide) produced the same weight loss, during a 48-hour treatment period as did a maximally effective dose of hydrochlorothiazide.

DOSAGE: Diuresis, initially 50 to 200 mg.; maintenance 25 to 150 mg., daily. Hypertension 50 to 100 mg. initially, adjusted to 50 mg. t.i.d. or downward to minimal effective dosage level.

WARNINGS: Use with caution in the presence of renal disease as azotemia may be precipitated or increased. In patients with advanced hepatic disease, electrolyte imbalance may result in hepatic coma. Dosage of coadministered antihypertensive agents should be reduced by at least 50%. In cases of suspected electrolyte imbalance, serum electrolyte determinations,should be performed and imbalance, if any, corrected. Stenosis or ulcer of small intestine have been reported with coated potassium formulas, and surgery has been required and deaths have occurred. Based on surveys of both United States and foreign physicians, incidence of these lesions is low and a causal relationship in man has not been definitely established. Until further experience has been obtained, the use of the drug in pregnant patients should be weighed against possible hazards to the fetus.

CONTRAINDICATIONS: AQUATAG (benzthiazide) is contraindicated in progressive renal disease or dysfunction including increasing oliguria and azotemia. Continued administration of this drug is contraindicated in patients who show no response to its diuretic or antihypertensive properties. Severe hepatic disease is a relative contraindication. (See "Warnings" above.)

PRECAUTIONS AND SIDE EFFECTS: Electrolyte imbalance with hypokalemia (digitalis toxicity may be precipitated), hypochloremic alkalosis and hyponatremia may occur.

Patients with cirrhosis should be observed for impending hepatic coma and hypokalemia. Other reactions may include blood dyscrasias, hyperuricemia and gout, nausea, jaundice, anorexia, vomiting, diarrhea, dizziness, paresthesia, photosensitivity and headache. Hepatic fetor, tremor, confusion and drowsiness are signs of impending pre coma and coma in patients with cirrhosis. Insulin requirements may be altered in diabetes. AQUATAG (benzthiazide) should be used with caution post-operatively as hypokalemia is not uncommon. Potassium supplementation may be advisable pre- and post-operatively. There have been occasional reports of thrombocytopenia, leukopenia, agranulocytosis, aplastic anemia and precipitation of acute pancreatitis or jaundice.

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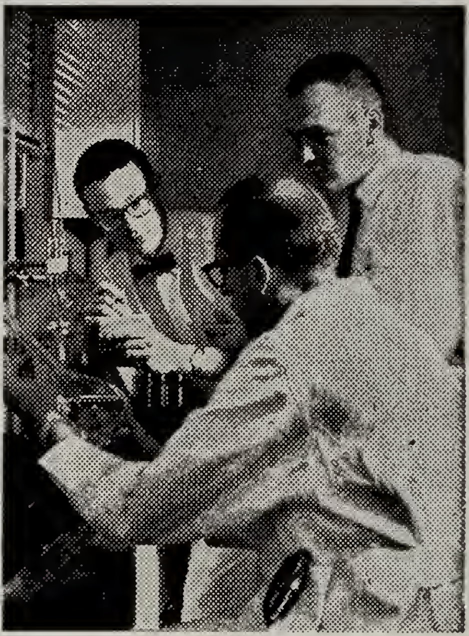

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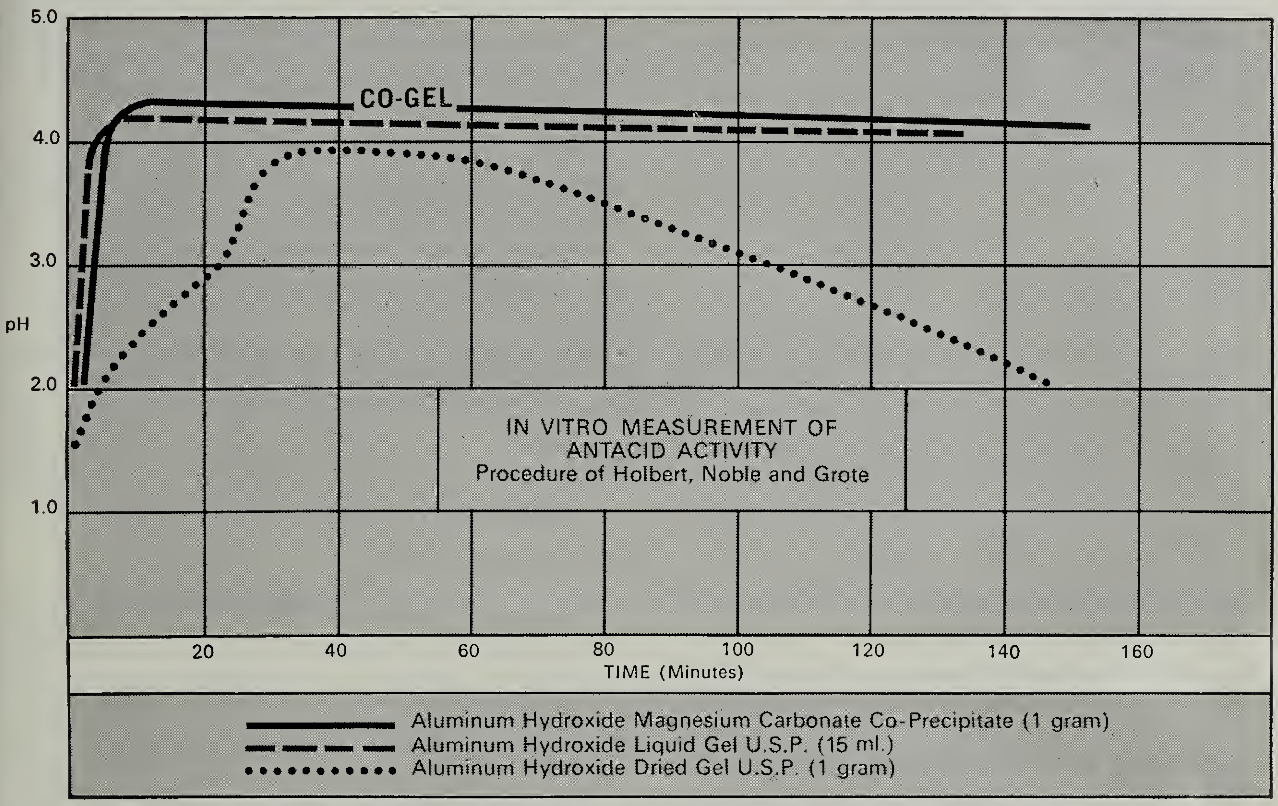

Holbert, J. M., Noble, N., and Grote, I. W.—Jnl. Amer. Pharm. Assoc. (Sci. Ed.) 37,292 (1948).

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CO-GEL is not just another antacid, but rather it's an entirely *new antacid compound* for gastritis, hyperacidity and peptic ulcers. It is an Aluminum Hydroxide formulation with Magnesium Carbonate Co-Precipitate. The Co-Precipitate, a new chemical, gives CO-GEL Tablets the speed of action and the duration of a liquid antacid.

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CONTRAINDICATIONS

None.

DOSAGE

For relief of hyperacidity, peptic ulcers or gastritis, chew one tablet (or take one teaspoonful). Repeat in 1 hr. if necessary.

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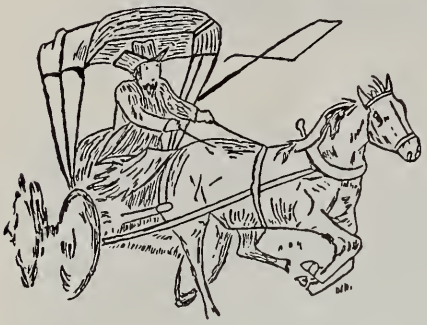
LEO H. POLLOCK, M.D.

Missouri Medicine in Review



FORTY YEARS AGO

Recent dispatches from Kansas City tell of the incorporation of a new medical school in that city as the American Medical University. We are informed that the institution is operating in the same building formerly occupied by the Kansas City College of Medicine and Surgery, the diploma mill whose charter was revoked by the Supreme Court last June. Some of the incorporators of the new school are recent graduates of the defunct institution.

The Wintersteiner collection of about 12,000 slides from ocular tissues for microscopic study is housed at the St. Louis University Medical School and is open to the examination and study of any and all physicians. The importance of pathology in the practice of medicine cannot be overstressed. It is well known that the best textbooks in the different branches of medicine have been written by pathologists.

Valentino: The death of this young man seems to have been such an unnecessary and easily preventable occurrence that a closer scrutiny of the events that led up to his death seems advisable. According to newspaper reports, he had abdominal distress for six weeks preceding the fatal attack during which he took tablets of some kind and did not consult a physician. He collapsed suddenly and was taken to a hospital and there it was discovered that he had a perforated appendix. It is almost impossible to doubt that he would be alive today if an early diagnosis had been made; in other words, if he had consulted a physician.

TWENTY-FIVE YEARS AGO

The State Board of Health recently approved the grades of 186 applicants who passed the State Medical Board examination and approved ten applicants for license to practice medicine in Missouri by reciprocity.—Four per cent of all deaths and 50% of all accidental deaths occurring annually in urban areas of the United States are due to accidents in public places. Motor vehicles are responsible for approximately 70% of all fatal public accidents.

Since April 1, 1941, the National Youth Administration for Missouri has conducted 6,930 health examinations. Previous to the NYA examination, 499 of these persons had never been to a physician and 1,024 had never been to a dentist.—The possibility that certain types of cancer growths of the gastrointestinal tract may be diagnosed by means of a gastroscope (an instrument for inspecting the interior of the stomach) is suggested in *The Journal of the American Medical Association* for July 19 by C. Norman Giere, M.D., El Paso, Texas.

TEN YEARS AGO

The Annual Picnic of the Mid-Missouri Medical Society was held at the camp of Dr. and Mrs. E. A. Stricker near St. James, Sunday, July 22. Swimming, boating, fishing and story-book telling were all added together to sharpen appetites for barbecued chicken and ham. The wives of the medical society members brought their favorite covered dish so that everyone was amply fed. The barbecued ham and chicken were compliments of the Stricker's.

The South Central Counties Medical Society met for dinner August 29, at the Aztec Club, east of Willow Springs, with the following members and visitors present: Drs. J. W. Wiles and Rollin H. Smith, West Plains; H. W. Miller, M. B. Perkins and L. E. Walker, Willow Springs; S. W. Connor, R. W. Denney, A. C. Ames and H. G. Frame, Mountain Grove; D. E. Tiffany, Mountain View; C. W. Cooper, Thayer; and John L. K. Tsang, Springfield, and the wives of several.

Dr. J. Walter Burdette has been appointed Professor of Clinical Surgery and Director of the St. Louis University Surgical Service at Veterans Hospital effective September 1. Dr. Burdette came to the University from the University of Missouri School of Medicine where he served as Chairman of the Department from 1955 to 1956.

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Information for Contributors

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Manuscripts should be typewritten, double spaced, and the original with one carbon copy submitted. Retain another carbon copy for proofreading. Used manuscripts are not returned. School and hospital appointments of the author should accompany the manuscript. It is desirable that a synopsis-abstract of approximately 135 words accompany the manuscript. Bibliography should be arranged at the end of the article in the order in which the references are cited in the text. The reference should give name of author, title of article, name of periodical, volume number, initial page number and year. Authors are responsible for bibliographic accuracy. Bibliography should be double spaced.

Illustrations should be glossy prints or drawings in India ink on white paper. They should not be mounted and name of author and figure number should be penciled lightly on the backs. Legends should appear on a separate sheet. Colored illustrations will be used when suitable if author assumes the actual cost.

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Reprint order blanks will accompany proof, which will be sent to authors prior to publication.

All material other than scientific should be received prior to the first of the month preceding month of publication.

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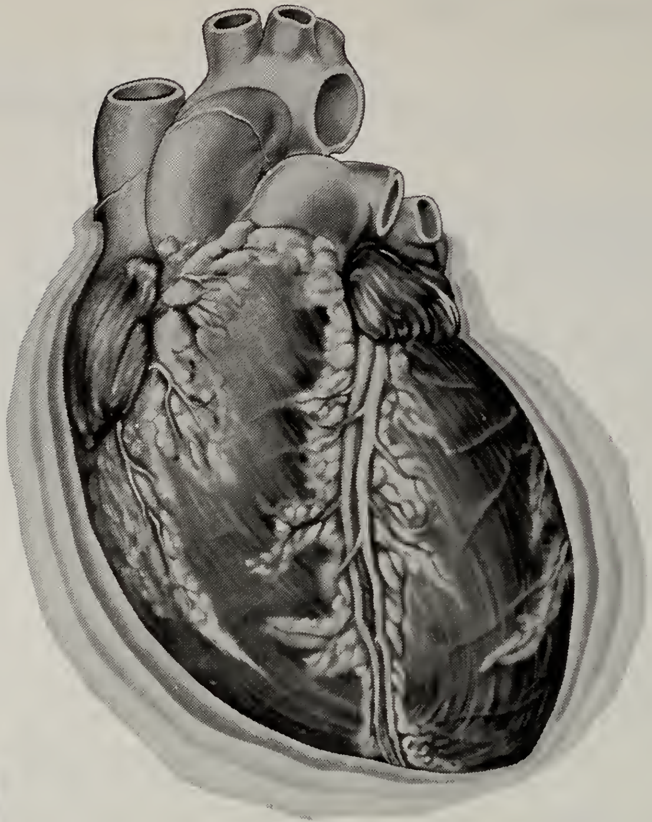

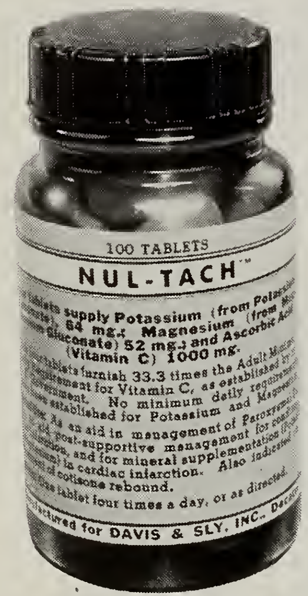

Aids in long term management of Paroxysmal Tachycardia

FOR REPLACEMENT OF MINERAL DEPLETION (potassium and magnesium) IN THE MYOCARDIUM

AIDS POST-SUPPORTIVE MANAGEMENT OF CARDIAC INFARCTION

Paul Dudley White, M.D.: Heart Disease, 4th Ed., "It is to be remembered that toxic doses of digitalis may themselves cause paroxysmal tachycardia, especially of ventricular type. Potassium salts have also been recommended for obstinate tachycardia, as in the case of premature beats; Stempien and Katz (1942), for example, have advised giving 1 or 2 gm of potassium chloride or acetate every two to four hours to supplement or reinforce the action of quinidine." (page 888)

Kleiner and Orten: Biochemistry, 6th Ed., "Potassium is necessary for nerve activity. Nerve fibers are exceptionally rich in this element. When the nerve is stimulated, potassium diffuses into the surrounding fluid rapidly, and during rest diffuses back." (page 605) "It cannot be stated that in any of these conditions the lack of Vitamin C is a primary causative factor, but it may be significant that the vitamin blood level is found to be reduced in many pathological states." (page 352)

Richard H. Follis, Jr., M.D.: Deficiency Disease, "Myocardial effects of potassium deficiency have been described in rats, mice, rabbits, dogs and calves. The tissues which appear to suffer most are myocardium, striated muscle and kidneys." (page 25) "McCollum has called attention to the appearance of tachycardia as acute magnesium deficiency develops; electrocardiograph studies in rats reveal sinoaricular block." (page 38)

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COMPOSITION:

Each four tablets supply:

Potassium	64 mg
Magnesium	52 mg
Ascorbic Acid	1000 mg

SUGGESTED DOSAGE:

Orally, one tablet 3 or 4 times per day.

SUPPLIED:

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Las Vegas to Host AMA Clinical

A scientific program especially designed for the physician in practice is scheduled for the 20th Clinical Convention of the American Medical Association. The four-day meeting in Las Vegas Nov. 27-30 will include scientific sessions on 18 major topics, three postgraduate courses, breakfast roundtable conferences, closed-circuit television and medical motion picture programs, and a variety of scientific exhibits.

Of special interest are the postgraduate courses, which have been expanded to three topics: Obstetrics and Gynecology, Fluid and Electrolyte Balance, and Cardiovascular Disease. Each course will consist of three half-day sessions, each of which will feature several outstanding teachers. There will be a $10 registration fee for each course.

Lively discussion should be a feature of four Breakfast Roundtable Conferences. The topics: "An Agonizing Reappraisal of Cancer Chemotherapy," "The Problem and Potential of LSD," "The Management of Metabolic Bone Disease," and "Indication for Cardioversion."

An outstanding program of closed-circuit color television and more than 25 medical motion pictures will be presented.

Topics at the scientific sessions include: scintillation scanning, radiation and cancer, clinical pulmonary physiology, gastroenterology, futuristic diagnostic and therapeutic tools, neck pain, antibiotics, urology, aerospace medicine, unconsciousness, dermatology, juvenile diabetes, endocrine and metabolic diseases, pediatrics, surgery, hematology, psychiatry, and otolaryngology.

Scientific and industrial exhibits and all scientific meetings will be in the newly expanded Las Vegas Convention Center.

The AMA House of Delegates will meet in the Dunes Hotel and Caesar's Palace.

The Eighth National Conference on the Medical Aspects of Sports will be held in conjunction with the Clinical Convention. A day-long program of discussion of problems faced by team physicians at all levels of athletic competition will be discussed. The meeting will be Sunday, November 27, at Caesar's Palace.

For advance registration at the Clinical Convention, write to the Circulation and Records Department, American Medical Association, 535 N. Dearborn St., Chicago, Ill., 60610.

For information on hotel reservations, write to the AMA Housing Bureau, Las Vegas Convention Bureau, Convention Center, Paradise Road, Las Vegas, Nevada.

Third Quackery Congress Set

The Third National Congress on Medical Quackery will be held October 7-8 at the Pick-Congress Hotel in Chicago. Joint announcement of the Congress was made by F. J. L. Blasingame, M.D., executive vice-president of the American Medical Association, and Peter G. Meek, executive director of The National Health Council. The AMA and The National Health Council, the nation's largest organization of professional, governmental and voluntary agencies in the health field, will serve as co-sponsors of the October Congress.

The two previous National Congresses on Medical Quackery, in 1961 and 1963, were held in Washington, D. C. The October Congress will be based on the theme of "Quackery: 1966" and will be aimed at calling to the attention of the nation the perils posed by present-day fads and fallacies in the health field. Each of the two earlier Congresses, which received wide public and professional acclaim, were attended by more than 600 persons interested in medical quackery, representing the fields of education, government, and professional and voluntary organizations. Plans are being made for an attendance—by invitation—of 750 to 1,000 persons at the Chicago Congress.

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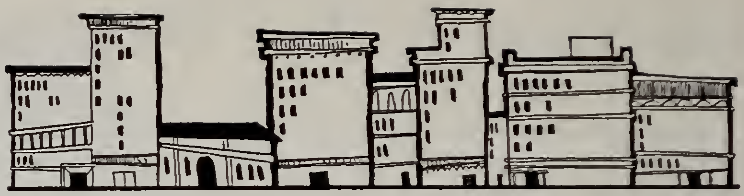
From the Medical Schools



The American College of Chest Physicians offers three cash awards to be given annually for the best essay prepared by undergraduate medical students on any phase of the diagnosis and/or treatment of chest diseases (heart or lungs). The First Prize will be $500; Second Prize, $300 and Third Prize, $200. Each winner will also receive a certificate of merit. A trophy inscribed with the name of the winner and the name of his school will be presented to the winner's school.

Since the Essay Contests were initiated in 1950, cash prizes totaling more than $14,000 have been awarded to students in many parts of the world. Beginning in 1967, the College Essay Contest will be known as the Alfred A. Richman Essay Contest. Through a generous grant made by Dr. Richman, New York City, Vice-Chairman of the Council on International Affairs, funds have been provided for the continuance of this important aspect of the College program. As in the past, The Essay Contest will be open to undergraduate medical students throughout the world.

The official application form, sample copies of the journal and additional information may be secured by writing Mr. Murray Kornfeld, Executive Director, American College of Chest Physicians, 112 East Chestnut Street, Chicago, Illinois 60611.

UNIVERSITY OF MISSOURI

The National Institute of Child Health and Human Development has granted the School of Medicine $87,817 for the first of three years of research on a project under the direction of Dr. Fred V. Lucas, professor and chairman of the department of pathology.

The grant is significant because it will enable the School to purchase an advanced model electron microscope (costing approximately $45,000) which may be used in other related research. The microscope is capable of magnifying tissue specimens to a size where single molecules can be discerned.

The project will study the ultrastructure (subcell structure) of abnormal and normal endometrium through the use of electron microscopy. The endometrium is the mucous membrane lining the wall of the female uterus.

Dr. Lucas and colleagues Dr. David G. Hall, professor and chairman of the department of obstetrics and gynecology, and Dr. Filiberto Cavazos, assistant professor of pathology, will be able to study abnormal endometrial structure. This could have extensive application in the study of cancer of the uterus.

The second conference in a Fall series of courses planned by the Office of Continuing Medical Education will be held October 14-15 at the Medical Center in Columbia. The "Soft Tissue Trauma" conference offers to physicians in general practice and in surgery specialties a review of basic pathology involved in soft tissue trauma as well as different methods of treatment. The course includes injuries to ligaments, tendons, muscles, skin, and nerves.

A fee of $35 is charged for the course. The program is acceptable for eight accredited hours by the American Academy of General Practice.

Speakers will include Dr. Benjamin W. Drompp, professor and head of the Division of Orthopedic Surgery at the University of Arkansas Medical Center at Little Rock, and Dr. James B. Wray, professor of surgery and chairman of the Division of Orthopedics at State University of New York at Syracuse.

ST. LOUIS UNIVERSITY

The School of Medicine has received a grant of $250,000 from the W. K. Kellogg Foundation. The funds will be used over a period of five years to strengthen and enlarge the scope of the School's administrative functions.

The grant provides for the addition of an executive officer to the School of Medicine staff to help relieve the Dean of non-policy making administrative affairs and for the addition of a student affairs officer to help assistant dean Dr. Donald W. Bussmann. The grant also provides for supplementary personnel and equipment to implement the work of the new officers.

The S.S. Hope in Nicaragua

JOHN T. LOGUE, M.D., ***Columbia***

"WHEN YOU HAVE finished your stay here and you do go back, please tell the people of your country and your government that your flag and ours were entwined together in friendship and in honor, and that you achieved a victory more significant and glorious than those reaped in wars and more lasting, because it did not destroy but, instead, built upon the foundation of human dignity."

These words were spoken by Agusto Oviedo Reyes, Bishop of Leon, to the medical staff of the S.S. *Hope.* They express the ideals, the goals and the attainments of the Nicaraguan mission of the S.S. *Hope* in 1966 and serve as the creed for Nicaraguan and American alike to follow.

The now famous S.S. *Hope,* white peace time teaching hospital ship, sailed out of San Francisco on September 22, 1960 on the first of many voyages to aid the underprivileged sick in other lands and to teach—always teach—those interested in their health problems. Thousands have walked up her gangways to treat, work, learn and teach together with their American counterparts on board.

In the far away lands of Indonesia, South Viet Nam, Peru, Ecuador, Guinea and now in Nicaragua, more than 3,000 physicians, surgeons, dentists, nurses and para-medical personnel have received additional training in their skills and have shared their knowledge with those Americans fortunate enough to serve.

More than 100,000 indigent sick have been treated. More than 8,000 major surgical operations have been performed. More than 1 million people have been vaccinated for polio, typhoid, tetanus, and diphtheria.

Deep in the lower reaches of the *Hope* an "iron cow" continually converts sea water and powder into rich, nutritious milk, that miracle drug for malnutrition in the young, for malnourished children abound wherever poverty exists. More than 2 million cartons of milk have been distributed.

The volunteer medical staff aboard the *S.S. Hope.* Doctor Logue is third from the left. The others are physicians and medical students. Volunteer nurses usually serve for a full year on the mercy ship.

Nicaragua, the largest of the Central American Republics, is some 54,340 square miles of territory (about the size of Illinois) forming a triangle with one side along the Caribbean, the second along the Honduran border and the third following the Pacific coastline to the Costa Rican border on the south.

Two large mountain ranges run from the northwest to the southeast dividing the country into a large, rich, agricultural Pacific coastal plain, high mountains and plateaus, and a Caribbean rainfall jungle that is yet to be crossed by road. Travel here is by air or river steamer.

The west is overpopulated by Spanish speaking descendants of Indian tribes and Spanish settlers. The eastern jungle is sparsely populated by colorful natives from the Caribbean Islands. They speak English with that lyrical Calypso accent—beautiful music to ears unaccustomed to Nicaraguan Spanish.

The S.S. *Hope* had been in Corinto, Nicaragua, for two months when we arrived as the second rotation of American physicians. Our predecessors swiftly oriented us to our new responsibility, then disappeared on their long journeys home.

The first rotation had been highly successful in launching the Nicaraguan mission of the S.S. *Hope,* forming friendships with the Nicaraguan people from the President and his cabinet in Managua, many miles away, with the Nicaraguan medical association, the local practicing physicians and, above all, with the people who thronged to the *Hope* shore clinics.

The faculties of the Medical and Dental Schools of the National University at Leon were cooperative and anxious to include *Hope* teaching efforts in their programs. The health survey team that preceded the arrival of the S.S. *Hope* in Nicaragua estimated that medicine in general may be advanced some 20 years by the visit of the S.S. *Hope* in 1966.

Project *Hope* in Nicaragua has three purposes: first, to share with Nicaraguans whatever knowledge and skills we have in the fields of medicine, dentistry, and nursing and medical technology; second, to offer medical care to people who, under ordinary circumstances would be unable to obtain it; third, and perhaps most important, to learn to understand and to work with people of Nicaragua.

Each day we worked on the ship, in the shore clinics and in the hospitals of Corinto, Chinandega and Leon with more than 100 Nicaraguan doctors, nurses, technologists and medical and dental students. Illness recognizes neither day nor night, so work in the hospital does not stop. Doctors, students and nurses attended lectures and demonstrations on the ship five days a week. Regular classes in diet and dental hygiene were held in the Corinto Clinic for the native population and a massive immunization program for the children of Nicaragua has been undertaken.

The *S.S. Hope* off Corinto on the Pacific side of Nicaragua. It was here that Doctor Logue spent nearly two months aiding the sick and teaching Nicaraguan physicians, medical students and paramedical personnel. He describes it as one of the most rewarding experiences of his life.

In the first four months, 620 patients have been admitted to the S.S. *Hope* for operation and treatment; over 7,000 patients have been examined and treated in the outpatient clinics; and 2,600 quarts of milk have been distributed to the poor, malnourished children of Corinto and Chinandega each week. One can see the miracle of milk as little faces fill out and dull eyes twinkle within a week. In Nicaragua, 50% of the newborn die before the age of five years. Those who survive have a life expectancy of 35 years and all face the certainty of suffering from a succession of preventable illnesses.

A volunteer interpreter was always at my shoulder those first few days helping when needed in patient care and teaching. Working for no more than the reward of doing a vital job well when they can spare time from their lives, these bilingual people are indeed the unsung, but not unappreciated, heros of *Hope's* endeavors in foreign countries. Necessity forces fluent expressions and soon language barriers do not seem insurmountable, as teacher and student strive together to express and understand.

The S.S. *Hope* is a complete 230 bed hospital offering all clinical services to those patients brought aboard. The *Hope* is manned by voluntary two month rotations in all of the medical, surgical and dental specialties. There is a small permanent professional staff serving for a minimal salary to maintain continuity from one rotation to the next.

The hospital ship and clinics are staffed by the most dedicated, idealistic, gentle, hard working, group of nurses, technicians, and para-medical help that I have ever seen. It is a great honor to serve with them. Their gentleness, compassion for human suffering, and patience, often in the face of great difficulty, is touching to see.

On every shift, everyone appears in clean, freshly starched and ironed uniforms. Everyone washes and irons his own uniforms, often arising early for these chores before reporting for duty. The calming effect, of crisp, clean, compassionate nurses on the anxious sick and fearful is immediate and profound. It is to these then, the interpreters, the nurses, the technicians, and the para-medical personnel that a full measure of credit must go for the repeated successes of the S.S. *Hope's* foreign medical teaching efforts. These are the people who accept, mold, and transmit into practical reality the knowledge, skills, inspirations and desires of myriads of rotators, each with his own preconceived and assigned medical, teaching or practice mission.

A revealing description of the impoverished people of Nicaragua, their dire need for proper health care and the progress being made on their behalf. The author is one of several doctors from Missouri who recently completed a two-month tour of voluntary service on the *S.S. Hope*, the famed white hospital ship. Founded in 1958, Project *HOPE* (Health Opportunity for People Everywhere) is the principal activity of The People-To-People Health Foundation, Inc. Since its first medical teaching-treating voyage in 1960, the *S.S. Hope* has journeyed to six nations on three continents. Dr. Logue is a specialist in internal medicine, a member of the staff of the Boone County Hospital and the University Hospital in Columbia, and Consultant in Internal Medicine to the Missouri Crippled Children's Association.

In a land where even elementary sanitation is unknown outside of the cities, typhoid, fever, poliomyelitis, amebiasis and intestinal parasitism is ever present. The absence of refrigeration insures the spread of food poisoning, poliomyelitis, typhoid, amebic dysentery and hepatitis in explosive epidemics. Malnutrition from vitamin and protein-poor diets is common weakening all to the ravages of those silent killers, tuberculosis and leprosy, the diseases that thrive in the weak and are virtually incurable except under ideal treatment conditions. These are nonexistent in Nicaragua.

Housing is inadequate. Nicaraguans often crowd large families together in dark one room tenements, or in small, thatched huts hidden back in the lush tropical vegetation. Sewage and garbage fills the drainage ditches, but often as not, rots where it falls. Chickens, pigs, and cattle are free to roam and forage. Thus, those diseases of animals transmissable to man have free access to the population. Brucellosis, tuberculosis, and leptospirosis abound, and the packs of mangy, undernourished, dogs roaming the countryside insure the constant threat of rabies. No animal control measures in Nicaragua safeguard the unwary.

During the past decade, jungles have been uprooted giving way to cattle farming and, more recently, to intensive mechanized cotton production with large scale, virtually uncontrolled spraying of the countryside with insecticides. Insecticides have drastically altered the insect population. This coupled with persistent mosquito control efforts has virtually eliminated yellow fever as a health threat. Malaria, while still ever present, is decreasing rapidly each year. With the increasing use of insecticides and sprays there are increasing numbers of toxic reactions among the population, many of them rapidly fatal. Economic progress, without which no health, social or sanitary progress can be made, exacts its toll.

On this background of acute contagious illness, one recognizes all of those afflictions more familiar to us. Cancers, tumors of all sorts, leukemias, heart disease, venereal disease, ulcers, and mental illness all claim their victims. Every clinic was filled with the lame and crippled from each year's epidemic of poliomyelitis.

Rheumatic heart disease, acute rheumatic fever, the kidney diseases and arthritis from previous streptococcal infections—easily prevented here with penicillin—were commonplace. Massive goiters, largely the result of iodine deficient diets, were commonplace in young and old alike in a land surrounded by iodine rich seas teeming with sea food. The natives will not eat sea food, for it spoils quickly unless refrigerated, and there is no ice. The residue of evaporated sea water is burned to make salt which is eaten in prodigious amounts, but the iodine is lost in the process. Samples of salt tested proved to be iodine free. Compulsory addition of iodine to salt should markedly decrease the incidence of goiter in Nicaragua.

Outside of the large city hospitals, surgery is frequently complicated by postoperative infection. Congenital malformations, long neglected, are seen wherever one cares to look. Cleft palates and hare lips accumulate in large numbers for the plastic surgeons of *Hope* to correct. Modern burn therapy is unknown. Cataract extractions are scheduled for months ahead. Chaga's disease, rhinoscleroma, leprosy, and mycoses were commonplace.

Today in Nicaragua there is a health care revolution taking place with impoverished people becoming aware of good health care practices for the first time. Daily the demand for more progress grows stronger as the Nicaraguan people, the Nicaraguan medical profession, and the Nicaraguan government tackle the heretofore nearly insurmountable health problems.

The S.S. *Hope* in Corinto, *Hope's* teams of medical specialists teaching in the Medical

para VIGOR SEXUAL
CEREBROL
EL TONICO sin par

A Nicaraguan billboard which Doctor Logue describes as being "characteristic of the Nicaraguan temperament." The message is obvious even to those who may have only a nodding acquaintance with the Spanish language.

School of the National University at Leon and in the hospitals in Corinto, Chinandega, and Managua are encouraging and aiding this massive effort. *Hope's* efforts are solely supported by the voluntary contributions of Americans everywhere and, especially, by the American Pharmaceutical Industry and medical equipment manufacturers.

The S.S. *Hope* is not an undertaking of the United States Government or a directed instrument of its foreign policy. The annual budget of the S.S. *Hope* is about five million dollars, all voluntarily contributed by individual Americans and by American Corporations. The S.S. *Hope* represents all Americans who believe in Health Opportunity for People everywhere.

The people of Nicaragua are deeply appreciative of *Hope's* presence. The sincere gratitude of Nicaragua is seen deep in the eyes of countless impassive patients, is felt in the touch of the sick, and is passed along by interpreters and by many Nicaraguans who served with us in this, their massive health care undertaking.

In a few short months, the S.S. *Hope* will steam out of the Corinto harbor away from the cheers and tears of thousands who will line the shores for a sad farewell. This will be so, for thus it has always been wherever the *Hope* has gone. After taking on new supplies, the *Hope* will sail for Colombia, South America, on her next medical teaching mission of mercy.

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HUGH S. MATHEWSON, M.D., *Kansas City*

Pharmacological Agents for Pain

To attempt a coherent discussion of analgetic drugs is to assume many things, not the least of which is the nature of pain itself. Beyond the simple perception of pain lies a vast hinterland of sensory responses, which may either reinforce or suppress the original stimulus. In chronically painful states, environmental factors assume prominent roles. Moreover, the modes of action of analgetic drugs are poorly understood. Beyond some knowledge of their dose-effect relationships and their common side actions, we administer them only on an empirical basis. Indeed, most clinical pain is evaluated in terms of the measures necessary to relieve it. The neurophysiologic mechanisms involved are ordinarily beyond our comprehension.

These remarks are made only to emphasize that our definition and scope of pain control by drugs is quite limited. A discussion of analgetics is more rational when applied to the problems of acute pain. Where pain is extended over days and weeks our pharmacologic premises become increasingly vague. This brief survey will follow the directions recent researchers have led us, particularly toward uses of antinarcotics and neuroleptics. Only those drugs generally applicable to all forms of pain will be considered. This excludes antacids, nitrites, caffeine, ergot alkaloids, anticholinergics—agents which counteract various etiologic factors of pain.

Analgetic drugs possess a common pharmacologic property, pain-threshold elevation. In addition varying degrees of euphoria and sedation are produced, and it is difficult to separate these entities. Anti-inflammatory (anti-rheumatic, anti-pyretic) activity contributes to the analgetic action of aspirin-like drugs. Finally, a property closely related to sedation (drowsiness) is diminished autonomic reactivity, particularly with respect to sympathoadrenal responses.

Classification of analgetics ordinarily follows the "dominant action" principle, and could be outlined accordingly:

1. Antipyretic analgetics—salicylates, p-aminophenols, phenylpyrazoles.
2. Narcotics and related drugs.
   a. Weekly active compounds with little or no addictive liability-codeine, dextropropoxyphene, ethoheptazine, prodilidine.
   b. Antinarcotics—nalorphine, pentazocine, cyclazocine.
   c. Potent compounds with addictive liability—morphine, meperidine, methadone and their congeners.
3. A miscellaneous group of chemically unre-

A summary of current concepts which have been derived from recent researches on the various analgetic drugs. The author reports that morphine-like drugs remain the principal pharmacological agents for severe pain, but researchers hope for eventual development of effective non-addictive analgetics. This paper was presented originally at the 1966 MSMA Annual Session. Doctor Mathewson is in the private practice of medicine and is Chairman of the Section on Anesthesiology, St. Luke's Hospital.

lated drugs, including methopholine, indomethacin, mefenamic acid and certain members of the group now categorized as ataractics or tranquilizers.

Weak narcotic-like compounds. The properties of codeine are familiar, i.e., a limited capacity to elevate the pain threshold and low addictive liability. Many derivatives of known narcotic structures have been prepared which have similarly attenuated activity. The best known is *dextropropoxyphene* (Darvon), which approaches the analgetic potency of codeine and has practically no liability to physical dependence. Its chemical structure is methadone-like. *Ethoheptazine* and *prodilidine* are similarly acting compounds whose molecular forms resemble meperidine. Certain closely related congeners of codeine (dihydrocodeinone, oxycodone) belong to this group, but they are most often employed as antitussives. These weak analgetics are usually given orally and may be freely used in ambulatory patients. Their limitations are obvious, and as the scale of potency is ascended their addictive liabilities become correspondingly greater.

Antinarcotics. A promising line of development was indicated by the observation that nalorphine (Nalline) possessed significant analgetic activity, although in larger doses than those ordinarily used for antinarcotic purposes. However, dysphoria appears so frequently that it was clinically unacceptable.[1] Further efforts led to the synthesis of two antinarcotics of the benzomorphan series, of which the narcotic phenazocine (Prinadol) is the best known member. *Pentazocine,* a weak antinarcotic, has fair analgetic potency and has been satisfactorily employed clinically. *Cyclazocine* is strongly antinarcotic but also has reasonably good pain threshold raising capacity. Presumably these compounds do not induce physical dependence, and researchers are hopeful that highly effective non-addictive analgetics will eventually be developed.[2]

Narcotic-antinarcotic mixtures. If it is assumed that antinarcotics relieve the respiratory depressant effect of narcotics without marked loss of analgesia, a combination of the two may be considered. Clinical studies with various pairs (matched molecular pairs, such as morphine-nalorphine and levorphan-levallorphan are frequently selected) have been disappointing. Although full respiration is easily maintained with relatively small proportions of antagonist, the analgesia is definitely less satisfactory. Either the antinarcotic interferes with the narcotic-induced depression of pain pathways, or the loss of euphoria is detrimental to the feeling of relief expected by the patient. Intractable pain is poorly controlled, and dysphoric side effects are frequent. Perhaps a rational indication for such a combination is for obstetrical analgesia where prevention of neonatal respiratory depression is important.[3]

Methotrimeprazine (Nozinan). The use of chlorpromazine-like drugs to supplement or perhaps potentiate narcotic activity is well known. However, phenothiazine derivatives are not usually considered to be suitable analgetics when used alone. Methotrimeprazine is closely similar structurally to chlorpromazine. It is reported to be about half as potent as morphine when employed for the treatment of intractable pain. In addition it possesses the sedative and antinauseant properties of the phenothiazine group.[4]

Neuroleptanalgesia. Recently a group of compounds has appeared which are derivatives of butyrophenone, similar in action to chlorpromazine but of a higher order of potency. The best known are *droperidol* and *haloperidol.* Both produce a markedly tranquil, almost cataleptic state. Animal experiments have demonstrated a marked antagonism between these drugs and amphetamine, apomorphine and catecholamines. The term *neuroleptic* has been used to designate these powerful tranquilizers.

Combinations of neuroleptics and potent narcotics may be employed to produce a state of marked sedation, psychomotor depression and elevation of pain threshold. Such a state is termed *neuroleptanalgesia.* In recent studies two highly active new narcotics were used, *phenoperidine*[5] and *fentanyl.*[6] The latter is reported to have 100 times the analgetic potency of morphine. The view has been advanced that these very powerful drugs have a higher specificity for the diencephalic autonomic and pain perception centers, and that their side actions are less prominent. Neuroleptanalgesia may provide the answer to some problems of intractable pain, although relief will be accompanied by considerable sensorial depression.

Summary

Morphine-like drugs are still the principal pharmacological agents for severe pain. Attempts to separate analgetic effect from respiratory repression and physical dependence have not been highly successful, although researchers

(Continued on page 815)

JOHNSON BAKER, M.D., K. C. ANDERSON, M.D., *and*
GILBERT ROSS, JR., M.D., *Columbia*

Azotemic Renal Osteodystrophy

Case Reports

THE TERM AZOTEMIC RENAL OSTEODYSTROPHY has been employed to designate the variety of skeletal abnormalities associated with chronic renal insufficiency and specifically excludes bony changes derived from primary, non-azotemic renal tubular defects.[1-5]

Azotemic renal osteodystrophy has been most frequently reported in conjunction with certain structural abnormalities of the urinary tract culminating in renal failure of primary urologic interest.[5] Renal hypoplasia, polycystic disease and chronic glomerulonephritis may serve as the background; however, obstructive uropathy with superimposed pyelonephritis is the single most frequent etiologic factor. The following are reports of three cases seen at the University of Missouri Medical Center.

CASE REPORTS

Case # 1: A 14-month-old male infant presented at the University Hospital in July 1961, at which time a huge dilated right ureter with a fairly normal right kidney and tiny atrophic left kidney were discovered. A segment of the redundant right ureter was removed, and a double barreled ureterostomy was performed.

He was followed at frequent intervals until March 16, 1965, when his father brought him in with the complaint of "knock-knees." The child at this time complained of occasional lower extremity pain, polydipsia, polyuria and chronic constipation. Examination revealed a rachitic rosary and genu valgum, and the X-rays were compatable with rickets (Fig. 1). Laboratory data were as follows: alkaline phosphatase 87 KAU, serum calcium 8.5 mg/100 cc, serum inorganic phosphorous 9.0 mg/100 cc, and blood urea nitrogen 90 mg/100 cc.

He was treated with vitamin D, 20,000 units daily, demonstrating both considerable symptomatic and radiologic improvement (Fig. 2). When last seen on January 6, 1966, his serum calcium and phosphorous were 11.1 and 9.6 mg/100 cc respectively. Vitamin D was stopped, as hyperparathyroidism is suggested (Table 1).

Case # 2: A 12-year-old female presented at the University Hospital on November 19, 1963 for evaluation of genu valgum of two years duration. There was no history of interim illnesses or symptoms alluding to the genitourinary system.

Pertinent findings on physical examination included blood pressure of 130/98, mild scoliosis of the thoracic and lumbar spine, and genu valgum of both knees.

Laboratory data revealed a mild anemia and acidosis, with the BUN being 140 mg./100 cc and serum creatinine 7.2 mg/100 cc. Proteinuria and pyuria were present consistently, and a significant culture of *streptococcus fecalis* was obtained. The creatinine clearance was 7 liters/24 hours. The serum calcium was chronically low (8-8.7 mg/100 cc), while the serum inorganic phosphorous was 6.5 mg/100 cc.

X-rays revealed epiphyseal widening, slipping of

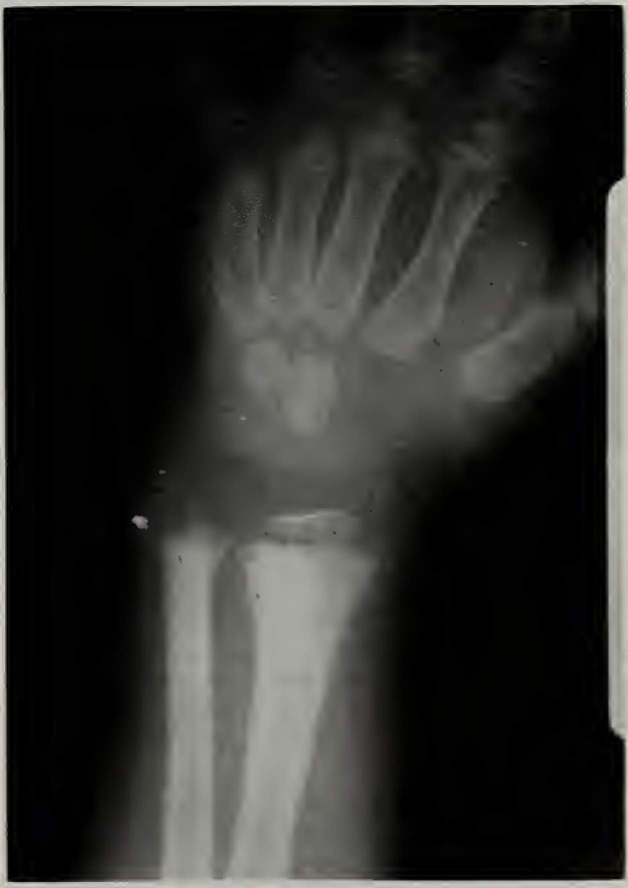

Fig. 1 The distal radius and ulna show an indistinct epiphyseal line with an irregular, frayed distal metaphysis and a suggestion of metaphyseal cupping.

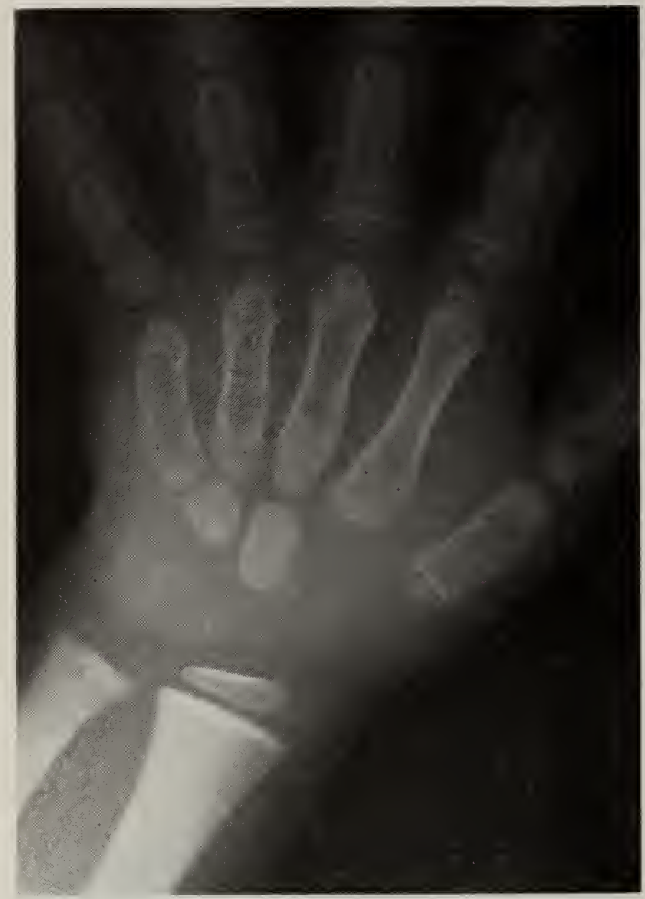

Fig. 2 (Same patient as Fig. 1, after treatment.) The epiphyseal line is now distinct. The distal metaphysis is regular, well calcified and there is no metaphyseal cupping.

the femoral capital epiphysis bilaterally and mild generalized demineralization. There was sclerosis in the vertebral bodies, concentrated in their superior and inferior portions (Fig. 3).

Cystoscopy and cystograms were normal, while right retrograde pyelograms showed a slightly small kidney and blunting of the calyceal system. Biopsy of this kidney revealed chronic pyelonephritis.

She was treated supportively with protein restriction, antibiotics and vitamin D, and discharged home on December 19, 1963, where she reportedly died shortly afterwards.

Case # 3: A 15-year-old female first came to the University Hospital on March 3, 1964 with a six to eight week history of generalized seizures and progressive weakness, pain and deformity of the left leg in the area of the knee. A vesicostomy had been done elsewhere in 1958 for "congenital hydroureter and hydronephrosis."

Examination revealed marked genu valgum of the left knee, and a well functioning vesicostomy was present. The blood pressure was 140/78, and neurological examination was within normal limits.

On admission the serum creatinine was 5.7 mg/100 cc, BUN 53 mg/100 cc, alkaline phosphatase 89 KAU, serum calcium 5.9 mg/100 cc and serum inorganic phosphorous 9.6 mg/100 cc. Serum proteins and electrolytes were normal. There was no PSP excretion in 15 minutes, and the urine was infected and hyposthenuric.

TABLE 1

Date	Ca (mgm%)	P (mgm%)	Alk. Phos. (KAU)	BUN (mgm%)	Creatinine (mgm%)
7/31/61	10.0			64	0.8
3/16/65	8.5	9.0	87	90	
Treatment Instituted					
6/10/65	8.6	7.0	56	60	
7/22/65			32	60	
10/14/65	10.0	6.5	28	81	2.4
1/ 6/66	11.1	9.6	11	81	1.8

(Note decline in serum alkaline phosphatase and rise of serum calcium after institution of treatment.)

Excretory urograms showed non-visualization of both kidneys; and cystograms revealed left ureteral reflex and a bladder diverticulum. Bone X-rays were consistent with renal osteodystrophy (Fig. 4).

She responded to protein restriction, supplemental calcium and vitamin D, with her serum calcium rising to 8.3 mg/100 cc and serum phosphorous dropping to 5.4 mg/100 cc. She was discharged to the

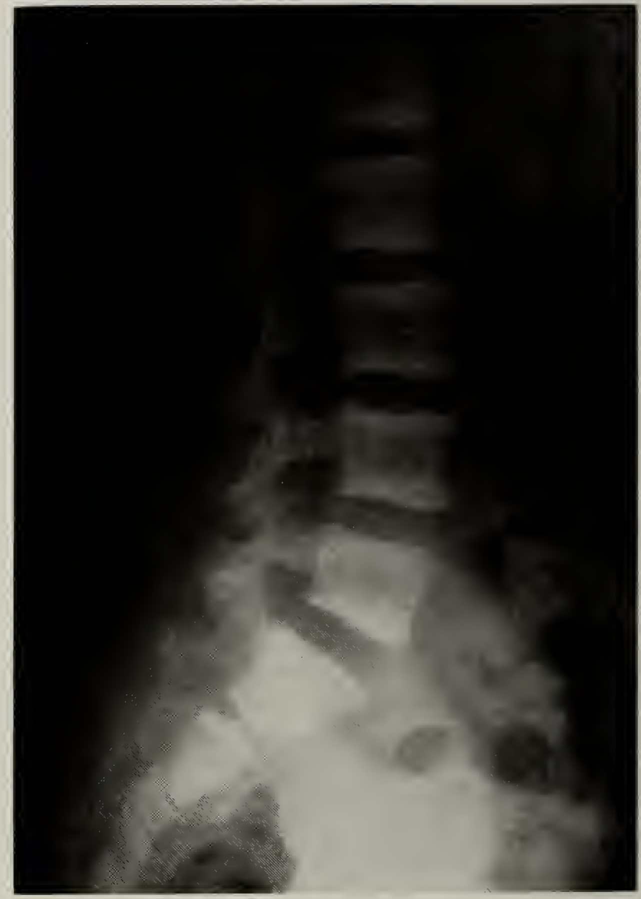

Fig. 3 A lateral view of the lumbar and sacral spine demonstrates osteosclerosis. There is demineralization of the central portion of the bodies and an increase in density of the superior and inferior borders of the vertebral bodies.

Crippled Children's Service on April 12, 1964 and reportedly continued improving, until she was lost to follow-up several months later. It was later learned that she expired of uremia in her home in early 1965.

DISCUSSION

The bony changes of azotemic renal osteodystrophy are quite nonspecific. They cannot be distinguished from those of nutritional rickets, osteomalacia or primary hyperparathyroidism.[6] Paradoxically, only a small fraction of azotemic patients develop bony changes, and there is no clear correlation with the degree of azotemia and the development of osseous changes.

The only consistent serum biochemical abnormality is nitrogen retention. While systemic acidosis is usually present, its correction does not modify the serum level of phosphorus, calcium or the response to vitamin D[7] but may result in symptomatic improvement.[8] The serum phosphorous is usually elevated, but may be normal or low; and the calcium, although usually low, may be normal or even elevated depending upon the stage of the disease. Serum alkaline phosphatase is usually elevated with disease activity and returns to normal with successful treatment.[7]

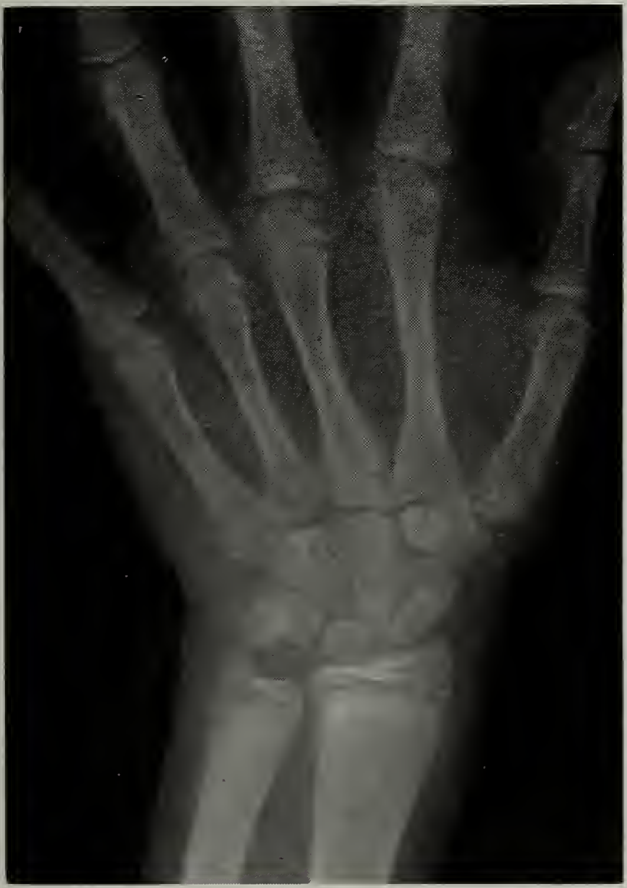

Fig. 4 As in Fig. 1, the epiphyseal line is obscured, the distal metaphysis is frayed and hazy with a decrease in mineralization.

Report on three cases of azotemic renal osteodystrophy which were seen at the University of Missouri Medical Center. The authors discuss the pathogenesis of the disease, the four types of skeletal changes which usually accompany it and the general principles of treatment. Doctors Baker, Anderson and Ross are from the Sections of Urology and Orthopedic Surgery, Department of Surgery, University of Missouri School of Medicine.

According to Stanbury, the primary disorder in the background of azotemic renal osteodystrophy appears to be a block in the intestinal absorption of calcium intimately associated with an abnormal response to vitamin D.[7] Present concepts suggest that vitamin D has a dual action directly effecting bone mineralization as well as influencing intestinal absorption of calcium.[9] The "vitamin D resistance" encountered in such patients reflects factors other than simple lack of absorption of the vitamin. More specifically, vitamin D administered parenterally in dosage more than adequate to cure nutritional rickets is ineffective in azotemic renal osteodystrophy.[1]

As has been suggested it appears reasonable to assume that there are vitamin D inhibitory factors in uremic plasma that diminish both calcium absorption and utilization.[7, 10] This in turn leads to a decrease in the serum calcium and failure of mineralization of osteoid resulting in growth arrest or rickets in the child and osteomalacia in the adult. The increase in osteoid tissue associated with growth additionally depletes the serum calcium, gradually stimulating parathyroid function. In the next phase, parathyroid hormone may release calcium from established osseous structures to mineralize the osteoid giving rise to osteosclerosis.[7]

Ultimately, the persistently low serum calcium may lead to enough parathyroid hyperplasia to produce a clinical picture indistinguishable from primary hyperparathyroidism. Treated early, the radiologic findings may revert to normal as the hyperplasia decreases. Untreated, the hyperparathyroidism becomes autonomous, the serum calcium rises to normal levels or above, and the condition persists even in the face of improved renal function as seen in renal transplant patients.[11]

It is now generally accepted that there are four types of skeletal changes:[10] (1) Dwarfism and retardation of growth, (2) rickets or osteomalacia, (3) osteosclerosis and (4) osteitis fibrosa.

Retardation of growth in the child may result from arrest of endochondral growth at the epiphysis. Following treatment this growth arrest may be seen as transverse lines in the metaphysis.

Frequently, the presenting symptoms in renal osteodystrophy are attributable to rickets or osteomalacia. In children these may take the form of gait disturbances secondary to genu valgum, varum or coxa plana associated with other deformities. Adults may present with bone pain and tenderness in the back, hips or pelvis.

Osteosclerosis is not symptomatic, but is seen radiographically as an area of increased density that may occur at the base of the skull, in long bones near the metaphyses, in the pubis and in the upper and lower borders of the vertebral bodies (Fig. 3).

Any or all of the changes of osteitis fibrosa may occur and are indistinguishable from primary hyperparathyroidism.

TREATMENT

The surgical management of the patient with obstructive uropathy is urgent, as is the control of infection. The patient with renal hypoplasia or polycystic disease should be subjected to the general principles of management of chronic renal insufficiency. Nothing short of renal transplantation, however, may be available for the oliguric patient with renal failure. Surgical measures may apply to a small number of patients with renal osteodystrophy and autonomous hyperparathyroidism, as subtotal parathyroidectomy, alone or in proper combination with renal homotransplantation, may benefit this group.[11]

When autonomous hyperparathyroidism is not the predominating feature, then certain supportive measures are indicated regardless of the underlying renal pathology: alkalinizing solutions, correction of anemia and administration of supplemental dietary calcium and vitamin D.[3]

Dietary calcium and high doses of Vitamin D (20,000 up to 1,000,000 IU) should be given until the total body deficit of calcium has been repaired, as evidenced by the healing of the osseous lesions, or until there is symptomatic relief.[4] The dosages of these preparations must be individualized and, ideally, controlled by metabolic balance studies. When these are not practical, the invariable and early rise in the serum phosphate concentration may be used as a guide to effective therapy.

After the bony lesions have been repaired, the dosages of calcium and vitamin D should be reduced to individual maintenance levels in order to guard against the development of hypervitaminosis D with metastatic calcifications.

If osteitis fibrosa is the predominant bone lesion but the hyperparathyroidism is not yet autonomous, vitamin D must be given with care, because, if these patients are already normocalcemic, vitamin D may produce hypercalcemia and metastatic calcifications *before* healing the bone.[7]

SUMMARY

Three cases of azotemic renal osteodystrophy seen at the University of Missouri Medical Center are presented. Pathogenesis of the disease appears to be a block in the absorption of calcium as well as an abnormal response to vitamin D, possibly due to vitamin D inhibitory factors circulating in the uremic plasma. The four types of skeletal changes—growth retardation, rickets or osteomalacia, osteosclerosis and osteitis fibrosa are discussed. Treatment is directed toward the general principles of management of chronic renal insufficiency and obstructive uropathy combined with dietary calcium and high doses of vitamin D until the body deficit of calcium has been repaired. After this has been achieved the dosages of calcium and vitamin D are lowered, so as to prevent metastatic calcifications and hypervitaminosis D.

BIBLIOGRAPHY

1. Liu, S. H. and Chu, H. I.: Studies of Calcium and Phosphorus Metabolism With Special Reference to Pathogenesis and Effect of Dihydrotochysterol (A.T. 10) and Iron. Medicine, Baltimore, 22:103, 1943.
2. Fraser, R. and King, E. J.: Biochemical Disorders in Human
3. Davis, J. A.: The Renal Osteodystrophies. Clin. Proc. Child
Disease (Ed. Thompson and King), 382, London; Churchill, 1957.
Hosp., Wash. 14:21, 1958.
4. Stanbury, S W.: Azotemic Renal Osteodystrophy. Brit. Med. Bull. 13:57, 1957.
5. Anderson, C. K., Hodgkinson, A. and Pyrah, L. N.: Azotemic Renal Osteodystrophy. Brit. J. Surg. 48:498, 1961.
6. Craven, J. D.: Renal Glomerular Osteodystrophy. Clin. Radiol., Vol. XV, No. 3:210, 1964.
7. Stanbury, S. W. and Lumb, G. A.: Metabolic Studies of Renal Osteodystrophy. Medicine 41:1, 1962.
8. Webster, G. D.: Azotemic Renal Osteodystrophy. The Medical Clinics of North America, Vol. 47, No. 4:985, 1963. (Ed. Clark and Bluemle, Jr.)
9. Cohen, M. B., Govick, H. C., Coburn, J. W. and Rubini, M. E.: Calcium Metabolism in Chronic Renal Failure. Clin. Res. 12:122, 1964.
10. Yendt, E. R., Conner, T. B. and Howard, J. E.: In Vitro Calcification of Rachitic Rat Cartilage in Normal and Pathological Human Sera With Some Observations on the Pathogenesis of Renal Rickets. Bull. Johns Hopkins Hosp. 96:101, 1955.
11. Wilson, R. E., Bernstein, M. P., Murray, J. E. and Moore, F. D.: Effects of Parathyroidectomy and Kidney Transplantation on Renal Osteodystrophy. Amer. J. Surg. Vol. 110, 3:384, 1965.

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An Inquiry Into the Nature of Myocardial Giant Cells

Case Report

Giant cell myocarditis, considered by Saphir[1] and others to be a variant of idiopathic myocarditis, is quite rare, fewer than 25 cases having been reported. Like other myocarditides, it may present clinically as unexplained progressive cardiac failure, sudden death or occasionally as persistent cardiac arrhythmia.[2] The purpose of this paper is to describe the clinical course and post mortem findings in a case of this rare entity, as well as to present the results of studies done in an attempt to define the mechanisms of this unique response of the myocardium to injury.

Case Report

Eighteen months prior to her admission to the University of Missouri Medical Center, this 64-year-old Caucasian woman had severe upper abdominal pain associated with nausea and vomiting. Several days later she noticed ankle edema, dyspnea, orthopnea and "light headed spells." Her family physician found her to have complete heart block, and she was treated with *isoproterenol* and *ephedrine* without relief. Five months prior to her admission she was hospitalized for "flu" characterized by nonproductive cough, chest pain and crampy abdominal pain. During the following months she experienced increasing difficulty with "fainting spells," shortness of breath and persistent cramping abdominal pain, often associated with nausea and vomiting. She was referred to the University Hospital for evaluation.

On admission she was obtunded and dyspneic, with a pulse of 28 per minute at the apex, respirations were 32 per minute and blood pressure was unobtainable. She was cyanotic with cold moist skin, marked venous distention and 3+ ankle edema. There were bubbling coarse rales throughout both lung fields as well as dullness to percussion at the right base. Her abdomen was distended with high pitched bowel sounds present. The liver was tender and extended 3.0 cm below the right costal margin. Neurological examination was negative.

Admission laboratory examination revealed an hematocrit of 42%, hemoglobin 13.7 gm/100 cc, white blood cells 21,050/cu mm with 95% neutrophils, 2% metamyelocytes and 3% lymphocytes. Platelets were 30,000/cu mm. Urine specific gravity was 1.023, pH 5.5, with 75 mg/100 cc albumin, many epithelial cells and granular casts as well as 25-35 white blood cells and 5-8 red blood cells per high power field. Many bacteria were present. Blood chemistry showed the blood urea nitrogen to be 39 mg/100 cc, glucose 107 mg/100 cc, serum creatinine 2.7 mg/100 cc, and serum bicarbonate of 14 mEq/liter. Other electrolytes were within normal limits. SGOT was 204 units, SGPT 52 units and serum LDH 205 units. Blood cultures obtained throughout her stay were negative.

X-ray showed globular cardiomegaly and pulmonary vascular congestion with a large right pleural effusion. This fluid was aspirated and found to contain 1.02 gm/100 cc protein. Cultures for bacteria, fungi and acid-fast bacilli were negative.

Admission electrocardiogram was interpreted as a complete A-V block with clockwise rotation and possible injury pattern of indeterminant age in the anteroseptal region.

Clinical Course: After a 500 cc phlebotomy and intravenous infusion of 0.8 mg *isoproterenol*, a bi-

Giant cell myocarditis is a rare inflammatory disorder affecting the myocardium. Like other myocarditides it may present clinically as unexplained progressive cardiac failure, as a cause of sudden death or as persistent cardiac arrhythmia. The authors present a detailed case report and discussion in an effort to explore, insofar as possible, the etiology of the myocarditis and the origin of myocardial giant cells. Doctor Senhauser is Professor of Pathology and Doctor Martt is Associate Professor of Medicine, University of Missouri School of Medicine. Doctor Miller was a Fellow in Pathology at the School of Medicine when this paper was prepared but is now in the Department of Pathology, University of Rochester School of Medicine, Rochester, N. Y.

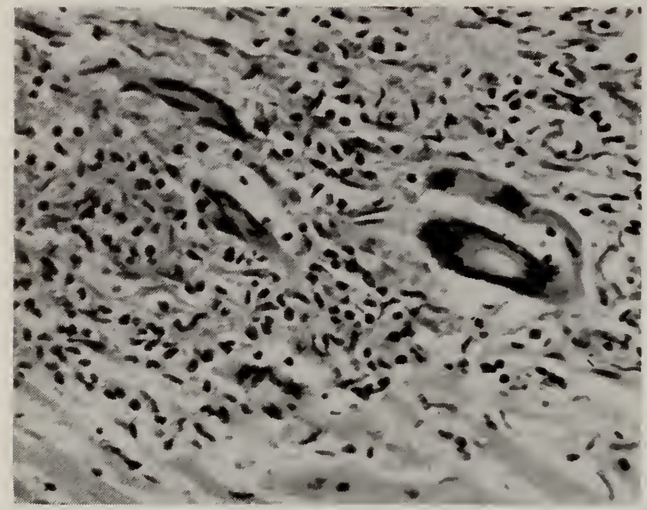

Fig. 1 Section of myocardium showing a focal area of fibroplasia which is infiltrated with chronic inflammatory cells and contains several multinucleated giant cells. (H & E, ×100)

polar electrode catheter was placed at the apex of the right ventricle under fluoroscopic control, but ventricular tachycardia resulted and 1.0 gm *procaine amide* was used to slow the rate to 105 per minute. Since the heart could not be paced with the bipolar electrode, a unipolar electrode was placed in the right ventricular cavity the next day. Ventricular tachycardia again ensued and was interrupted only by a 100 watt-second direct current discharge administered externally. Throughout the following days, the patient's condition was carefully monitored. There were repeated episodes of ventricular tachycardia, some of which required electrical defibrillation for interruption. Following one such episode a sinus rhythm briefly appeared; but multiple and varied arrhythmias soon returned. Asystole intervened on one occasion, but external cardiac massage was successful in restoring cardiac activity. Gradually the arrhythmias became too severe to control, and terminally irreversible ventricular fibrillation supervened on the eighth hospital day.

Post Mortem Examination: An autopsy was performed eight hours after death. The left pleural space contained 225 cc of clear yellow fluid and the lungs were moderately edematous; the right weighing 460 gm and the left 390 gm. A 0.5 cm calcified nodule was present in the parenchyma of the lower lobe of the left lung. The heart weighed 400 gm and, except for the presence of a few fibrous "soldier's plaques," the epicardium appeared normal. The coronary vessels arose and distributed in the usual fashion; the lumens were widely patent and the walls contained only rare small atheromatous plaques. The myocardium of the left ventricular wall measured 26 mm and was grossly mottled and striated with gray fibrous tissue, as was the interventricular septum. Fibrous tissue, which was predominantly subendocardial in distribution, involved the entire circumference of the left ventricle and extended through the muscular portion of the interventricular septum to the right ventricular aspect. The right ventricular wall measured 6 mm and was uninvolved as were the right and left atria. The endocardium and all the cardiac valves were smooth and glistening with no mural thrombi present.

The abdominal cavity contained 100 cc of clear yellow fluid. There was marked congestion of the kidneys, spleen, liver and gastro-intestinal tract. In addition segmental areas of necrotic intestinal mucosa were present. The remainder of the post mortem examination was unremarkable expect for a few small subcapsular fibrous plaques in the spleen and liver.

Microscopic Examination: The lungs showed moderate pulmonary edema and mild diffuse interstitial fibrosis. The nodule was composed of a calcified caseous central zone surrounded by a dense fibrous capsule in which many mononuclear cells were present. Acid-fast and PAS stains were negative.

Sections from the left ventricle and interventricular septum revealed marked derangement of the normal myocardial architecture. The striated muscle fibers were distorted and at times replaced by patchy areas of dense fibrous tissue which contained many chronic inflammatory cells and multinucleate giant cells. (Fig. 1) Although predominantly subendocardial, the changes extended through the full thickness of the left ventricular wall in focal areas. (Fig. 2) A section through the interventricular septum in the region of the A-V conduction bundle revealed extensive hyaline connective tissue containing scattered chronic inflammatory cells. The inflammatory lesions extended to the mitral valvular ring; however, the leaflets were not involved. Multiple sections of the right ventricular wall, as well as left and right atria, showed no evidence of the inflammatory process.

The abdominal viscera were markedly congested with extensive fatty degeneration in the liver, especially in the pericentral portions of the lobules. Sec-

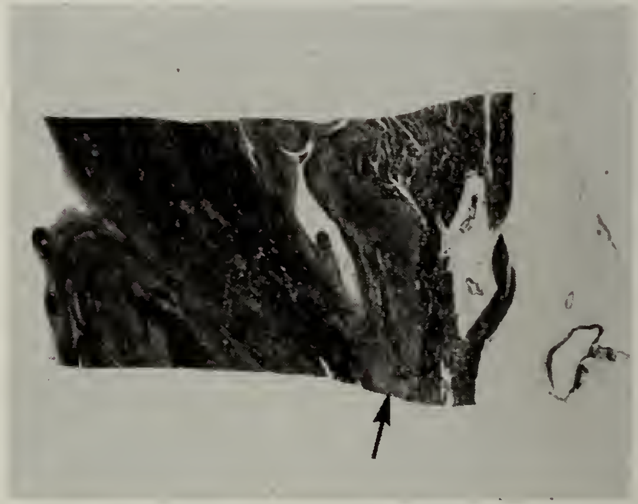

Fig. 2 Section through entire thickness of anterior wall of left ventricle stained by PTAH method to emphasize extent of inflammatory lesions. Arrow indicates typical grey-zones which represent the areas of inflammatory involvement. (Leitz Makrodia, ×2)

tions of small and large bowel showed necrosis of the mucosal epithelium and submucosa with marked dilatation of the veins of the lamina propria. The small fibrous nodules in the spleen were composed entirely of dense hyaline connective tissue. Despite extensive microscopic search, no evidence of active granulomas or chronic inflammation with giant cell formation were found in other organ systems.

Studies of the Myocardial Giant Cells: The giant cells were scattered throughout the areas of inflammation, but were primarily found in areas containing degenerating muscle fibers and large numbers of inflammatory cells. (Fig. 3) Each giant cell contained five to 20 ovoid, vesicular nuclei which closely resembled the nuclei of adjacent cardiac muscle fibers. (Fig. 4)

In an effort to determine the etiology and nature of the myocardial lesions, a number of special staining procedures were utilized. Grocott's stain for fungi, Levaditi's for spirochetes and Gram's stain for bacteria were all negative. No organism could be demonstrated on acid-fast preparations, and all examinations for parasites were negative. Post mortem bacterial and fungal cultures were negative. Although a few of the giant cell nuclei contained large basophilic nucleoli, typical viral intranuclear inclusion bodies were not seen. Cytoplasmic inclusions also were absent.

Attempts to demonstrate bound gamma globulin in the myocardial tissue were without success. Cryostat sections of the formalin fixed left ventricle were placed on glass slides, using egg albumin as a binding agent. Sections of formalin fixed normal human cardiac muscle and formalin fixed gamma globulin smears were used as negative and positive controls. The slides were incubated with fluoroscein conjugated anti-human gamma globulin serum, washed with phosphate buffered saline (pH 7.2) and examined microscopically with ultra-violet illumination.

The relationships and fine structure of the myocardial giant cells were investigated by means of serial sections of a typical lesion, each 6 μ in thickness, and stained with hematoxylin and eosin. Alternate sections were stained by phosphotungstic acid-hematoxylin (PTAH).[3] Three dimensional reconstruction by examination of the serial sections of the lesion demonstrated that the muscle fibers were irregularly interwoven amongst the dense strands of fibrous tissue. Thus, the myocardial giant cells which appeared to be only in close proximity to cardiac muscle fibers in one plane were found in continuity with these same muscle fibers in a deeper plane. This finding suggests that the giant cells represent abortive attempts at regeneration by the myocardial cells. In addition, in the sections stained with PTAH, although no cross striations were demonstrable within the giant cells, smaller fibrillar structures which stained in the same manner as the cardiac myofibrils were present within the cytoplasm of the giant cells. (Fig. 5) Similar treatment of giant cells in lesions due to proven tuberculous and foreign body reactions failed to demonstrate these intracytoplasmic PTAH positive fibrillar structures. In addition lipochrome pigments, producing similar fluorescent emissions when examined by ultra-violet light, were present in both the myocardial fibers and the cytoplasm of the giant cells.

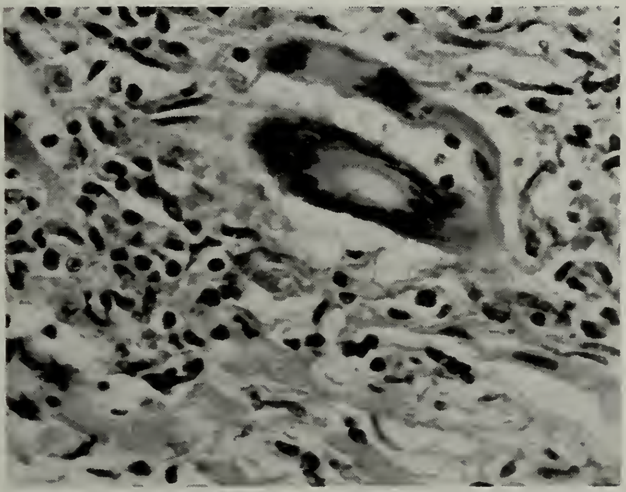

Fig. 3 Section of heart muscle showing two myocardial giant cells in an area containing large numbers of mononuclear cells and degenerating myocardial fibers. (H & E, ×400)

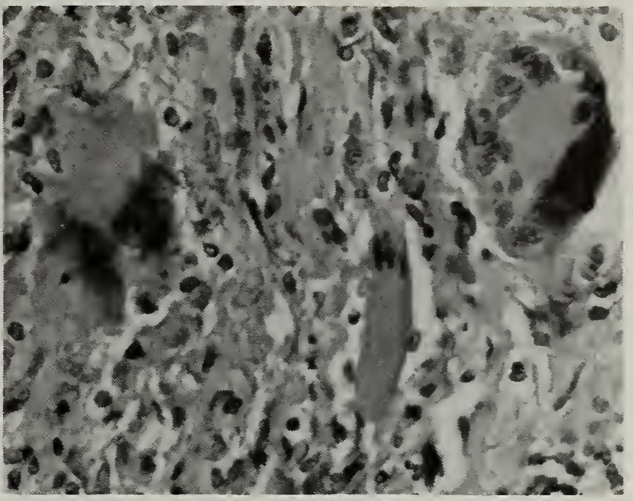

Fig. 4 Myocardial giant cells. Note many peripheral nuclei have the characteristic shape and chromatin pattern seen in normal cardiac muscle fibers. (H & E, ×400)

Discussion

Dilling[4] reported a case of giant cell myocarditis in 1956 and found only 13 additional cases in the literature. Additional cases[2, 5–8, 15] have been reported since that time describing the clinical as well as the pathological aspects of this disease. Recently, Palmer and Michael[14] reviewed 23 cases including one which they added to the total. Case reports of special interest include those of Langston,[9] who noted the association of granulomatous myocarditis, myositis and a thymoma; Zeeman,[10] who described a case of granulomatous myocarditis associated with a ventricular aneurysm; and McCrea and Childers,[11] who recently reported two cases, one of which was associated with mitral stenosis and the other with Wegener's syndrome. Reports in the foreign literature also suggest a relationship to delayed hypersensitivity.[12, 13]

Although most cases of giant cell myocarditis are associated with sudden death, progressive congestive heart failure and cardiac arrhythmias also have been reported in this disorder. The present case is interesting in that arrhythmia, syncope and abdominal pain were the primary clinical manifestations. Complete heart block due to involvement of the A-V conduction system by myocardial inflammatory processes has been noted in the past, and Pruitt[16] has pointed to the frequent association of myocardial irritability and conduction system lesions in idiopathic myocarditis. Ventricular tachycardia is reported to be an unusual manifestation of idiopathic myocarditis.[17] Many of the reported cases of giant cell myocarditis, however, have paroxysms of ventricular tachycardia. While sampling error may account for this discrepancy, it is possible that this granulomatous response to injury by the myocardium predisposes to ventricular irritability in some fashion.

Abdominal pain in myocarditis can be referred from the diseased heart[18] or it may result from "abdominal angina" due to severe chronic passive congestion of the gastro-intestinal tract with consequent segmental ischemic necrosis.[19] In addition distention of Glisson's capsule by hepatic congestion may cause abdominal pain. The discomfort noted 18 months prior to admission could have been referred pain related to the onset of the patient's myocardial disease. Since hepatomegaly was minimal and not particularly acute, it is likely that the pain noted during the terminal phase of her illness was due to the segmental ischemic necrosis of the small and large bowel noted at post mortem examination.

The nature of the myocardial giant cells seen in giant cell myocarditis, rheumatic heart disease and other cardiac myopathies has been debated for many years. Until the third decade of this century it was generally accepted that they were myogenic in origin[20] and represented attempts at regeneration by the cardiac muscle cells. Talalajen[21] and Kling,[22] using acute rheumatic myocarditis as a model, concluded that the giant cells were inflammatory in nature, deriving from the mononuclear cell infiltrate. This view prevailed until recently. Murphy,[20] in a careful analysis of the development of rheumatic myocardial lesions, demonstrated the evolution of multinucleate giant cells from myocardial fibers. The present study indicates that in giant cell myocarditis the myocardial fiber is the origin of the multinucleate giant cells, as it is in rheumatic myocarditis.

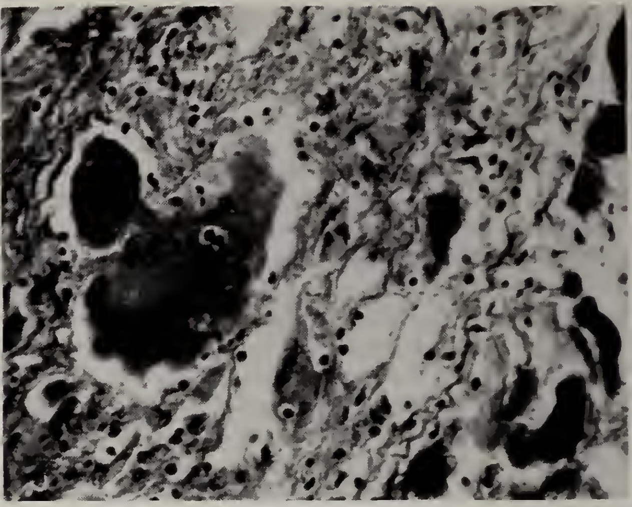

Fig. 5 Myocardial giant cells representing sarcoplasmal clubbing, show fibrillar cytoplasm and intracytoplasmic mononuclear cells surrounded by a clear zone, a phenomenon often seen in delayed hypersensitivity reactions. (PTAH, ×300)

All attempts to establish the etiology of the myocarditis in this case were not successful. Bacterial, fungal, viral, tuberculous, syphilitic and toxic mechanisms were all considered, but each could be eliminated on historical, cultural or morphologic grounds. Sarcoidosis was also considered, but the absence of granuloma in other organ systems as well as the morphology of these lesions mitigates against this disorder as the etiological agent in this case.[23]

Immunofluorescent studies on the myocardial tissue, which had been formalin fixed, failed to demonstrate bound gamma globulin at the site of the lesions. However, the character of the inflammatory infiltrate and the intracytoplasmic inclusion of mononuclear cells (Fig. 5 and 6) within the sarcoplasm of the cardiac fibers are highly suggestive of the cellular reaction described by Waksman in experimental delayed hypersensitivity reactions.[24]

Bing[25] and his co-workers demonstrated a giant cell response in the myocardium of a homografted dog heart, describing the lesion as "strikingly similar to the proliferative stage of acute rheumatic fever" with giant cells present. These changes were first noted 19 hours after the grafting procedure and became more pronounced as the rejection process continued. Pyroninophilic substances found in the perivascular mononu-

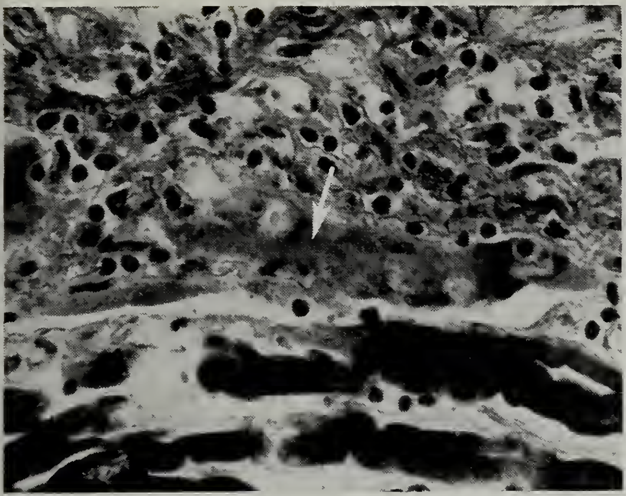

Fig. 6 Serial section of degenerating myocardial fiber with "giant cell" portion indicated by arrow. Note PTAH positive fibrillar structures in strap portion of degenating fiber. Unaffected muscle fibers are present in lower portion of field, infiltrating mononuclear cells in the upper portion. Note also the mononuclear cells surrounded by a distinct halo within the cytoplasm of the giant cell. (PTAH, ×500)

clear inflammatory cells suggested the production of antibody globulin by these cells.

Myocardial giant cells have been associated with tumors of the thymus gland,[9, 12, 13] Wegener's granulomatosis and acute rheumatic fever,[11] all conditions which are currently believed to be associated with hypersensitivity reactions. Giant cells are also seen during canine cardiac homograft rejection.[25] This evidence suggests that giant cell formation by cardiac muscle fibers may be a specific response of the myocardium to injury produced by immune reactions of the delayed hypersensitivity type, directed against components of the myocardial fiber.

Summary

A case of idiopathic giant cell myocarditis presenting clinically with abdominal pain, congestive heart failure and cardiac arrhythmias is presented. The autopsy findings are described, as are attempts to establish the etiology of this interesting disorder. The myogenic origin of these giant cells is discussed, as is the relationship of this response to certain hypersensitivity syndromes.

Bibliography

1. Gore, I., and Saphir, O.: Myocarditis, a Classification of 1402 Cases. Am. Heart J. 34:827-830, 1947.
2. Gubbay, E. R.: Idiopathic Giant Cell Myocarditis. Canad. M. A. J. 85:349-356, August 12, 1961.
3. Manual of Histologic and Special Staining Technics, p. 59. Armed Forces Institute of Pathology, Washington, D. C., 1957.
4. Dilling, N. V.: Giant Cell Myocarditis. J. Path. & Bact. 71: 295-299, 1956.
5. Goldberg, G. M.: Myocarditis of the Giant Cell Type in an Infant. Am. J. Clin. Path. 25:510-513, 1955.
6. Tesluk, H.: Giant Cell Versus Granulomatous Myocarditis. Am. J. Clin. Path. 26:1326-1333, 1956.
7. Rab, S. M., Choudbury, G. M., and Choudbury, A. R.: Giant Cell Myocarditis. Lancet 2:172-173, 1963.
8. Collyns, J. A. H.: Isolated Granulomatous Myocarditis. Am. Heart J. 58:630-636, October 1959.
9. Langston, J. D., Wagman, G. R., and Dickenman, R. C.: Granulomatous Myocarditis and Myostitis Associated with a Thymoma. Arch. Path. 68:367-373, 1961.
10. Zeeman, S. E., Templeton. J. Y., Goldburg, W. P., and Apoute, G.: Ventricular Aneurysm. Report of a Case Occurring in a 16 Year Old Boy with Granulomatous Myocarditis. Am. Heart J. 63:270-275, February 1962.
11. McCrea, P. C., and Childers, V.: Two Unusual Cases of Giant Cell Myocarditis Associated with Aortic Stenosis and Wegener's Syndrome. Brit. Heart J. 24: 490-498, July 1964.
12. Bignami, A., and Calcava, S.: Giant Cell Myocarditis Associated with a Tumor of the Thymus. Policlinico 69:857-866, 1962.
13. Radnai, et al: Uniform Approach to Eosinophilic Granulomatous and Giant Cell Myocarditis (Allergic Granulomatosis of the Myocardium). ZBL Allg. Path. 104:538-547, 1963.
14. Palmer, H. P., and Michael, I. E.: Giant-Cell Myocarditis with Multiple Organ Involvement. Arch. Int. Med. 116:444-447, 1965.
15. Naddachim, T. A.: A Case of Giant Cell Idiopathic Myocarditis. Arch. Path. 23:68-70, 1961.
16. Pruitt, R. D.: Clinical Manifestations of Nonspecific Myocarditis. Texas State J. of Med. 58:468-477, 1962.
17. Herman, R. H., Scripter, L. J., and Mattingly, T. W.: Recurrent Ventricular Tachycardia as the Chief Manifestation of Myocarditis of Unknown Etiology. Am. Heart J. 57:829-848, 1959.
18. Boles, E. T., and Haser, D. M.: Abdominal Pain in Acute Myocarditis and Pericarditis. Am. J. Dis. Child. 105:70-76, 1963.
19. Ende, N.: Infarction of Bowel in Cardiac Failure. N. Eng. J. Med. 258:879-881, 1958.
20. Murphy, G. E.: Nature of Rheumatic Heart Disease. Medicine 39:293-343, 1960.
21. Talalajen, W. T.: Der Akute Rheumatismas. Klin. Wehschu 8:124, 1929.
22. Klinge, F.: Der Rheumatismas, Munich, J. F. Bergmann, 1933.
23. Porter, G. H.: Sarcoid Heart Disease. N. Eng. J. Med. 263: 1350-1360, 1960
24. Waksman, B. H.: Tissue Damage in the "Delayed" (Cellular) Type of Hypersensitivity. In Mechanism of Cell and Tissue Damage Produced by Immune Reactions. Ed. Grabar, P. and Miescher, P., Grune & Stratton, Inc., New York/London. p. 146-159, 1962.
25. Bing, R. J., et al: Editorial, Transplantation of the Heart. Circulation 25:272-275, January 1962.

Pharmacological Agents for Pain (Cont'd)

are now more optimistic. It is hoped that a strongly analgetic antinarcotic will appear. Potent tranquilizers of the phenothiazine and butyrophenone types offer promise in the control of intractable pain, used alone or in conjunction with narcotics.

Bibliography

1. Huggins, R. A., and Moyer, J. H.: Some Effects of N-allylnormorphine on Normal Subjects and a Review of the Literature. Anesthesiol. 16:82, 1955.
2. Lasagna, L.: The Clinical Evaluation of Morphine and Its Substitutes as Analgesics. Pharmacol. Rev. 16:47, 1964.
3. Telford, J., and Keats, A. S.: Narcotic–Narcotic Antagonist Mixtures. Anesthesiol. 22:465, 1961.
4. Beaver, W. T., Wallenstein, M. S., Houde, R. W., and Rogers, A.: A Comparison of the Analgesic Effects of Methotrimeprazine and Morphine in Patients with Cancer. Clin. Pharm. & Therap. 7:436, 1966.
5. Rollason, W. N., and Sutherland, J. S.: Phenoperidine (R1406). A New Analgesic. Anaesthesia 18:16, 1963.
6. Holderness, M. C., Chase, P. E., and Dripps, R. D.: A Narcotic Analgesic and a Butyrophenone with Nitrous Oxide for General Anesthesia. Anesthesiol. 24:336, 1963.

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Mid-Missouri Stroke Survey: A Preliminary Report

Cerebrovascular diseases cause the deaths of approximately 200,000 Americans annually.[1] Recent reports, legislation and numerous articles have emphasized the importance of stroke as the third largest "killer" in the nation.[2-4]

Epidemiologic study of cerebrovascular disease is helpful in delineating the extent of the "stroke problem" and in providing knowledge of the natural history of stroke—fundamental areas in understanding any disease process. Community-wide epidemiologic studies in the United States in the last 20 years have emphasized coronary heart disease. However, several reports on the epidemiology of stroke have been presented using data gathered in conjunction with certain of these coronary heart disease studies.[5, 6] Epidemiologic studies utilizing only hospital data,[7] while valuable, are limited by exclusion of a large number of stroke patients. These include patients dying prior to hospitalization and those treated outside hospitals, as in nursing homes. Community studies on the other hand, while potentially including all cases of stroke in a population, are generally restricted by limitations of standardized medical information on each reported case. Consequently knowledge of various aspects of stroke must be obtained by different means. The purpose of this report is to describe an epidemiological study of cerebrovascular disease in Mid-Missouri.

Method

Because of the nationwide need for community data on the incidence and prevalence of cerebrovascular disease, the Section of Chronic Disease, State Division of Health; the Department of Community Health and Medical Practice, University of Missouri School of Medicine; and the Ecology Field and Training Station and Stroke Section, Heart Disease Control Program, U. S. Public Health Service established the Mid-Missouri Stroke Survey in cooperation with the local medical societies and with endorsement of the Missouri State Medical Association. The survey began July 1, 1963.

The survey attempted to identify all cases of cerebrovascular disease occurring in Boone, Cooper and Howard counties in central Missouri. These contiguous counties offered the desirable characteristics of an adequate and stable population (approximately 80,000), a representative age distribution and self-sufficient medical services, including one hospital in each county plus the University of Missouri Medical Center.

The primary objective of the survey in the first year was to obtain as accurately as possible a count of all new cases of major cerebrovascular disease occurring among the residents of the three counties. Information collected on each reported case included age, sex, race, county of residence, diagnosis, date of onset of present episode, number of previous episodes of major cerebrovascular disease, date of onset of earliest episode, hospitalization data and associated diagnoses including general arteriosclerosis, uremia, hypertension, septicemia, auricular fibrillation, coronary heart disease, rheumatic heart disease, diabetes mellitus and congenital heart disease.

A preliminary poll revealed 38 physicians (30 M.D.'s and 8 D.O.'s) in the three-county area who reported their practice included care of patients with cerebrovascular disease. These physicians volunteered to supply the required information to a survey representative who visited each physician every two to four weeks.

The 13 nursing home operators in the survey area were contacted by Institutional Advisory Nurses, Section of Chronic Disease. The nursing home operators informed these nurses of the number of residents and former residents still living who had a diagnosis of cerebrovascular disease. They also reported to the Institutional Advisory Nurse on her monthly visit to new patients admitted to their homes with a similar diagnosis.

Physicians reviewed hospital records of all residents hospitalized with cerebrovascular disease in the four hospitals in the study area. This search was extended to include hospitals in neighboring counties where some members of the survey population may have been treated. A review of hospital records for patients with cerebrovascular disease for the five years preceding the study aided in providing additional prevalence data. These physicians reviewed all hospital records coded 330-334 (Vascular Lesions Affecting Central Nervous System) and 352 (Other Cerebral and Spinal Paralysis) according to the International Classification of Disease.

The investigators also utilized death certificates obtained from the Vital Statistics Section, State Division of Health, to identify unreported deaths due to cerebrovascular disease among residents of the survey area.

Public health physicians and nurses of the four local health departments (three county and one city) reported cases occurring prior to the reporting period. They also provided information during the study period, including cases reported by community leaders such as County Extension agents. Survey results included only such information as could be confirmed by the attending physician.

For the purposes of this study, major cerebrovascular disease (stroke) was defined as a syndrome caused by vascular occlusion of the cerebral arteries or of those arteries in the neck and chest leading into the cerebral arteries, or by rupture of cerebral vessels resulting in residual focal neurological deficits. Survey results include the one angiographically proven case of cerebral aneurysm in the stroke population because of the inability to differentiate cerebral aneurysm from intracerebral hemorrhage with certainty in several other cases. However, we excluded several patients with symptoms of stroke in whom metastatic carcinoma to the brain was diagnosed subsequently, one in whom idiopathic thrombocytopenic purpura was found, and several patients coded as cerebrovascular disease secondary to automobile trauma. Patients with transient ischemic attacks who did not develop major cerebrovascular episodes were not included.

The age of the subject at the time of the first occurrence of stroke in the reporting year was used. Confirmation of diagnosis required agreement of the attending physician's report, the hospital record when available and a review of the data by physicians of the survey team. The investigators emphasized speed of onset of the episode, symptoms reported, duration of symptoms, spinal fluid analysis, indications of embolic phenomena elsewhere in the body and autopsy reports in evaluation and classification of reported cases. Because of the community-wide involvement and voluntary physician participation in the survey, extent of the diagnostic evaluation of each patient remained the prerogative of the attending physician.

Surveillance of all death certificates for residents of the survey area as supplied by the Vital Statistics Section provided subsequent mortality data. A check of participating physicians by survey personnel about April 1, 1965, confirmed the condition of presumed surviving patients. Discovery of no unknown deaths during this check augmented our confidence in the follow-up reporting system. Re-evaluation of all cases resulted in exclusion of two which had been used in a previous report.[8]

Population figures in this paper are estimates for January 1, 1964, the mid-point of the first recording year. These estimates were determined using an arithmetic projection of population change based on 1950 and 1960 U. S. Census data.

Age-adjusted rates are based on the estimated distribution of Missouri population for January 1, 1964, calculated by the method described above. Statistical comparisons were done using the Chi-square test of significance.

A preliminary report of the first year findings in a continuing stroke survey in central Missouri. The project registered 219 individuals who had suffered one or more strokes. The survey was sponsored by the Missouri Division of Health, the University of Missouri School of Medicine and the Ecology Field and Training Station. It has the endorsement and cooperation of the Missouri State Medical Association and the Medical Societies of Boone, Cooper and Howard counties. Doctor Parrish is Chairman of the Department of Community Health and Medical Practice, and Doctor Allen is Assistant Medical Director, University of Missouri School of Medicine; Doctor Payne is Chief, Doctor Goldner is a Field Medical Officer and Mr. Sauer is Senior Statistician, Ecology Field Station, Heart Disease Control Program, USPHS.

Results

A total of 219 people were reported as having one or more stroke episodes during the first year of the survey. All results in this paper refer to data compiled from the first stroke occurring to each of the 219 individuals during the recording

TABLE 1

FREQUENCY AND REPORTED INCIDENCE RATES ACCORDING TO COUNTY OF RESIDENCE, SEX, AND RACE—MID-MISSOURI STROKE SURVEY, JULY 1, 1963—JUNE 30, 1964

		Race					
		White		*Non-White*		*Total*	
County of Residence	*Sex*	*No.*	*Rate/1000*	*No.*	*Rate/1000*	*No.*	*Rate 1000*
Boone	Male	53	2.0	10	5.6	63	2.2
	Female	65	2.4	5	2.7	70	2.4
Cooper	Male	17	2.4	3	4.4	20	2.6
	Female	26	3.8	2	3.9	28	3.8
Howard	Male	16	3.5	2	4.1	18	3.5
	Female	18	3.8	2	3.7	20	3.8
Total		195	2.5	24	4.1	219	2.6

year. The frequency and incidence rates for each county by sex and race are presented in Table 1. Non-whites represented seven percent of the survey population 35 years of age and over, and experienced 11% of the stroke cases (24) in the first year. White males comprised 47% of the white population 35 years of age and over and 44% of the stroke cases occurring among whites in the first year. Statistical analysis showed a significantly higher rate of strokes among non-whites ($p < .05$) than among whites. No significant difference between white males and females was noted. Age-adjustment in analysis of sex and race variations was not done because of the relatively small sample. Survey analysis after the second year will utilize this technique to determine if real differences exist in age-specific and age-adjusted incidence of stroke by race and/or sex.

The frequency and reported incidence of strokes among whites according to age are presented in Table 2. The reported incidence rate increases significantly ($p < .001$) as age increases. The age-adjusted incidence rate for the study population adjusted to the estimated distribution of the 1964 population of Missouri is 2.58 per 1,000 population. The age-adjusted incidence rate for the population 35 years of age and over adjusted to the same segment of the total Missouri population is 5.55 per 1,000 population.

TABLE 2

NUMBER AND RATE OF REPORTED STROKE CASES IN WHITES ONLY BY AGE—MID-MISSOURI STROKE SURVEY JULY 1, 1963—JUNE 30, 1964

Age (in Years)	*Number*	*Rate Per 1,000 Population*
<-35	0	0.0
35-44	1	0.1
45-54	7	0.9
55-64	21	3.2
65-74	52	9.6
75-84	72	23.7
85+	42	55.9
Total	195	2.5

TABLE 3

CASE-FATALITY RATIOS IN WHITES ONLY BY AGE GROUPS—MID-MISSOURI STROKE SURVEY, JULY 1, 1963—JUNE 30, 1964

Age (in Years)	*Total Cases*	*Deaths**	*Case-Fatality Ratio (in Per Cent)*
<-35	0	0	0
35-44	1	1	100
45-54	7	2	29
55-64	21	8	38
65-74	52	29	56
75-84	72	60	83
85+	42	38	90
Total	195	138	71

* Deaths occurring prior to January 1, 1966 recorded.

Table 3 presents case-fatality ratios by age groups for whites only. Deaths were determined by follow-up to January 1, 1966. The case-fatality ratio increases at a highly significant rate ($p < .001$) as age increases.

Survivorship in whites following the initial major cerebrovascular episode in the first survey year is shown in Table 4. The follow-up in all cases was at least 18 months (to January 1, 1966). Of the 195 white stroke patients in the first survey year, the surprisingly high number of 65 (33%) were dead within one week of their stroke, and 130 (67%) were dead within one year. Factors relating to survivorship including age, race, type of stroke and associated diagnoses will be analyzed in future survey reports utilizing data from the second year also. A previous paper evaluated the effects of age, hypertension and

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Side Effects: Overstimulation of the central nervous system, jitteriness and insomnia or drowsiness.

Dextro-amphetamine sulfate: Insomnia, excitability, and increased motor activity are common and ordinarily mild side effects. Confusion, anxiety, aggressiveness, increased libido, and hallucinations have also been observed, especially in mentally ill patients. Rebound fatigue and depression may follow central stimulation. Other effects may include dry mouth, anorexia, nausea, vomiting, diarrhea, and increased cardiovascular reactivity.

Meprobamate: Drowsiness may occur and can be associated with ataxia; the symptom can usually be controlled by decreasing the dose, or by concomitant administration of central stimulants. Allergic or idiosyncratic reactions: maculapapular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case of fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, practitis (1 case), anaphylaxis, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdosage may produce drowsiness lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

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TABLE 4

Survivorship of Reported Stroke Cases in Whites Only—Mid-Missouri Stroke Survey, July 1, 1963—June 30, 1964

Survival Time	*No.*	*Per Cent*
Total Cases: 195		
Less Than One Week	65	33
Less Than One Month	98	50
Less Than Six Months	125	64
Less Than One Year	130	67
Less Than 18 Months	136	70

previous stroke on survival from stroke in the first survey year.[8]

Table 5 shows the frequency of different types of stroke occurring among white patients by county of residence. Differences in the frequency of reporting various types of stroke exist among the three counties.

Discussion

Measurement of the incidence of a disease in a population is only as accurate as the methods used to collect the necessary information. In our opinion, the Mid-Missouri Stroke Survey has approached complete reporting through the use of multiple sources of information. Each source has provided some information not found elsewhere. However, most of the data have come from physicians, death certificates, and hospital records. We cannot overemphasize the importance of using multiple sources of data for epidemiological studies of this kind. Only the category of non-hospitalized cases who survived the follow-up period is subject to doubt regarding completeness.

Survey data confirm that the incidence of stroke increases markedly as age increases.[4-6] Likewise, the case-fatality ratio has been shown to increase greatly with age.[6] Consequently, the older one becomes, the more likely he is to have a stroke and the more likely he is to die from his stroke. Since age is significantly associated with incidence and case-fatality ratio of stroke, strict control of age in the evaluation of any therapeutic measure is mandatory.

The length of survival following stroke observed to date in this survey (Table 4) is comparable to the results of Eisenberg et al.[6] The present investigators have delayed analysis of survivorship among various groups within the stroke population until the data of the second year are included.

Robinson et al[7] have reported life expectancy rates in hospitalized cerebral thrombosis patients. These rates are important in determining clinical prognosis. However, they present a quite different view of the natural history of stroke from that by a community study. For instance, 50% of the patients in Robinson's study were alive four years following their cerebral thrombosis. However, in the first year of this survey, only 50% were living one month after their stroke. Inclusion of cases reported as cerebral hemorrhage in this survey does not explain entirely these markedly divergent life expectancy results. Robinson's data as published do not allow comparison of age-specific rates.

Studies which include all cases of stroke occurring in a population are necessary to help answer some questions concerning the etiology and pathogenesis of major cerebrovascular disease.

Summary

A preliminary report, including data of the first year of the Mid-Missouri Stroke Survey, is presented. The methods used in this survey are outlined in detail. A community survey of stroke includes more nearly accurate information of the extent of the problem within a community and

TABLE 5

Frequency of Major Strokes in Whites Only by Diagnostic Categories and County of Residence—Mid-Missouri Stroke Survey, July 1, 1963—June 30, 1964

	Type of Stroke Diagnosed									
	THROMBUS		HEMORRHAGE		EMBOLUS		UNKNOWN		TOTAL	
County of Residence	No.	%	No.	%	No.	%	No.	%	No.	%
Boone	75	(64)*	25	(21)	4	(3)	14	(12)	118	(100)
Cooper	14	(33)	13	(30)	6	(14)	10	(23)	43	(100)
Howard	22	(65)	4	(12)	3	(9)	5	(15)	34	(101)†
Total	111	(57)	42	(22)	13	(7)	29	(15)	195	(101)†

* Percentage inside parenthesis expresses ratio of number of each specific type of stroke divided by total number of strokes within that county.

† Total greater than 100% because of rounding-off to nearest per cent in each case.

increases knowledge of the natural history of the disease. The reported incidence and case-fatality ratio of major cerebrovascular disease was found to increase significantly with age. Preliminary survivorship data in this survey showed that 33% of reported stroke patients died within one week of their stroke, and 67% were dead within one year.

Acknowledgements: The authors gratefully acknowledge the assistance of James E. Banta, M.D. and Jane Wynn, M.A. in the planning of this survey. They also express thanks to Mr. Turner Russell and Mr. Roscoe Swain, Program Representatives of the Missouri Division of Health, for collecting much of the data for this study. The authors also express their appreciation to the physicians, hospitals and nursing homes of Boone, Cooper and Howard counties for their continued and active participation.

BIBLIOGRAPHY

1. Vital Statistics of the United States, 1960. U. S. Dept. of Health, Education and Welfare, Public Health Service, U. S. Government Printing Office, Washington, D. C., 1961.
2. The Heart and Circulation—Vol. 1, Research. Second National Conference on Cardiovascular Diseases. Washington, D. C., 1964.
3. Borhani, N. O.: Changes and Geographic Distribution of Mortality from Cerebrovascular Disease. Am. J. Pub. Health 55: 673-681, May, 1965.
4. Berkson, D. M., and Stamler, J.: Epidemiological Findings on Cerebrovascular Diseases and Their Implications. J. Atheroscler. Res. 5:189-202, 1965.
5. Kannel, W. B., Dawber, T. R., Cohen, M. E., and McNamara, P. M.: Vascular Disease of the Brain—Epidemiologic Aspects: The Framingham Study. Am. J. Pub. Health 55:1355-1366, September, 1965.
6. Eisenberg, H., Morrison, J. T., Sullivan, P., and Foote, F. M.: Cerebrovascular Accidents. J.A.M.A. 189:883-888, September 21, 1964.
7. Robinson, R. W., Cohen, W. D., Higano, N., Meyer, R., Lukowsky, G. H., McLaughlin, R. B., and MacGilpin, H. H., Jr.: Life-Table Analysis of Survival After Cerebral Thrombosis—Ten-Year Experience. J.A.M.A. 169:1149-1152, March 14, 1959.
8. Goldner, J. C., Payne, G. H., Watson, F. R. and Parrish, H. M.: Prognosis for Survival After Stroke. Submitted for Publication.

WANTED

Scientific papers relating to clinical investigation, basic medical science or clinical medicine. Papers should be planned with 10-minute "in person" presentation in mind. Authors of selected works will be invited to present their papers at the 109th Annual Session of the Missouri State Medical Association . . . April 6-9, 1967 . . . Chase-Park Plaza Hotel . . . St. Louis.

Send abstracts to:
John I. Matthews, M.D., Secretary
Missouri State Medical Association
515 East High St.
Jefferson City, Mo. 65101

Continuing Education Coming Events

Oct. 3-5	**Kansas City Southwest Clinical Society Annual Fall Conference** Hotel Muehlebach, Kansas City (acceptable 19 hours, AAGP credit)
Oct. 13-May	**Continuous Case Study Seminar** Continuing Education, School of Medicine St. Louis University, St. Louis (15 week seminar. Twice weekly)
Oct. 14-15	**Soft Tissue Trauma** Continuing Education, School of Medicine Medical Center, Columbia
Oct. 29-30	**Annual Assembly of Missouri Academy of General Practice** President Hotel, Kansas City (10 hours)
Nov. 4-5	**M.D. Day** Continuing Education, M.U. School of Medicine Medical Center, Columbia
Nov. 9 & 23	**Psychiatric Problems Seminars** Continuing Education, M.U. School of Medicine St. Louis University, St. Louis
Dec. 7-8	**Current Concepts in Arthritis** Continuing Education, M.U. School of Medicine Medical Center, Columbia

HARRY F. KAPHINGST, ***Jefferson City***

Missouri Rheumatic Fever Program: Progress Report

The Missouri Rheumatic Fever Program has completed its first six months of operation, and the accompanying article is a report on progress to date. Plans are being made for a series of professional postgraduate programs on rheumatic fever. Details will be announced as soon as they are available. Mr. Kaphingst is Public Health Advisor to the Heart Disease Control Unit, Section of Chronic Diseases, Missouri Division of Health.

The Missouri rheumatic fever secondary prevention program is now rounding out its first six months of operation. During this time a total of nearly 300 patients has been enrolled in the program. This represents a combined effort of 126 physicians throughout the state, and some 70% of the state's 114 counties are represented in the enrollment.

The cooperation by the physicians has been most gratifying. Even though only a fraction of the total number of physicians in the state has already enrolled patients in the program, the number is growing daily, and all sections of the state are represented. During the first six month period 84% of the patients have been on oral penicillin, 13% on injectable penicillin, and 3% on sulfadiazine.

For those who yet may be unsure of the program's operation, the following brief description might help.

1. Patients are enrolled in the program only upon application by a physician.
2. A pad of four prescriptions (enough for a year's prophylaxis) is then sent to the doctor and a prescription for three months' supply is issued in the usual manner to the patient.
3. The patient takes the prescription to the participating pharmacist, who in turn sends it to the Division of Health.
4. The Division of Health sends the requested drug and enrolls the patient in the state-wide registry.
5. The patient receives the drug from the pharmacist for a nominal fee, and takes the medication as prescribed.
6. Drugs available are:
   a. Oral Buffered Penicillin G 250,000 Units each tablet, 180 tablets per Rx.
   b. Long-acting Injectable Penicillin 1,200,000 Units each syringe.
   c. Sulfadiazine—0.5 gm. per tablet, 180 tablets per Rx.
7. This is a low-cost program; no free drugs may be obtained through it.
8. In no case are the prescriptions to be refilled.
9. The advantages of a central state-wide registry include:
   a. The physician is advised if the patient fails to fill a prescription and becomes delinquent.
   b. Assistance in follow-up may be obtained from the public health nurse and central registry office, if the physician desires.
   c. Even though patients may move to another area of the State, they are not as easily lost to follow-up.
   d. Even though there may be a change of physicians, the registry assists in making a lapse in prophylaxis less likely.
   e. Experience has shown that patients appreciate being followed through a central registry, and are more likely to maintain their prophylaxis.

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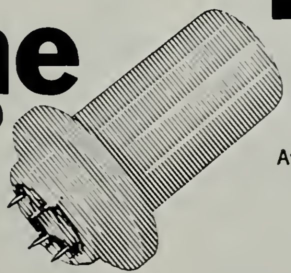

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MRS. RICHARD A. SUTTER. *St. Louis*

So, Who Needs a Medical Auxiliary?

UNDERSTANDING of the purpose and potential of the Woman's Auxiliary might be compared to the problem in communication experienced by a pastor of our acquaintance. This pastor wanted his congregation to buy a chandelier for the church sanctuary, and was at a loss to understand the resistance offered by a long-time pillar of the church. The parishioner finally explained his lack of support on the grounds that: first, he did not know how to spell "chandelier"; second, no one in the congregation could play one; and third, what the church really needed was better lighting!

If any "illumination" is needed relative to Medical Auxiliaries, it is for greater appreciation and acceptance of the value of increased Auxiliary productivity, a simple matter of enlightened self-interest by organized medicine. Certainly no one can deny that the profession has never needed friends and allies working in its behalf more than it does today. Ninety thousand physicians' wives in Auxiliaries all over the country, including 1800 in Missouri, are eager to assist Medicine in attaining its goals for the betterment of the health of the people of the United States.

It is axiomatic that the most successful Auxiliaries are those which enjoy the closest cooperation and support of their parent Medical Societies. In addition to providing financial assistance and counsel in planning programs and obtaining speakers, Medical Societies are finding it mutually advantageous to invite Auxiliary representation on such Society committees as Legislation, Mental Health and Public Relations. In recognition of the fact that the potential of women volunteers may be greatly extended and given continuity by staff personnel, many State Medical Associations have added specific staff for Auxiliary liaison. This has proven a well justified expense not only in large states such as Texas, Pennsylvania and Illinois, but also in states no larger than Missouri such as Iowa.

Health-related meeting topics acquaint Auxiliary members with the unmet public needs of their communities and stimulate them to do something about those needs, either as Auxiliary groups or as knowledgeable individuals. It is unrealistic for harried physicians to take time from their patients to sit in day-long community conferences or even in many prolonged luncheon meetings. But physicians' wives, well informed through their Auxiliaries, can provide a real extension of organized medicine through service on boards and committees, by expressing Medicine's point of view which might not otherwise be heard. It is considerably easier to head off trouble at the planning stage, than after an adverse position has been taken.

Historically the Woman's Auxiliary has been concerned with health education, also referred to as "lay" or "public" education, as opposed to "professional." Health education attempts to bridge the gap between scientific advances and public utilization of those advances. We know that tools and services for controlling communicable disease, preventing chronic illness and reducing mortality are available, but perhaps inadequately used, in tax-supported as well as private facilities. We know that no agency, private or tax-supported, can guarantee health or security or happiness. Health is a personal responsibility; only the individual makes the choice between care or neglect of himself.

A recent nation-wide study of health education in the schools, financed by the Bronfman Foundation and conducted with the cooperation and under the supervision of five national organizations—the AMA, the National Education Association, the United States Office of Education, the United States Public Health Service and the National PTA—indicates that school systems, with few exceptions, pay little or no attention to health education even when it is a part of the curriculum. Some of the misconceptions endorsed by 70% of high school seniors in this survey included:

> *The best source of help for a persistent cough or a persistent skin inflammation is a pharmacist; for a painful back injury, a chiropractor.*
>
> *Use of pep pills or sleeping pills does not require medical supervision.*
>
> *Legislation guarantees the reliability of any advertised medicine.*
>
> *Fluoridation is done to purify water for drinking purposes.*

The Bronfman study also revealed that senior students knew very little about community health. One third of those surveyed believed that voluntary health agencies, such as TB or Cancer Societies, had the power to enforce necessary community health regulations. One third also believed that a full-time public health department provides complete medical diagnosis and treatment for any citizen.

Last winter's televised National Health Tests showed the low level of health information held by the adult public. Among those who participated in control groups taking the tests, one third did not know the normal temperature reading on a clinical thermometer! These were literate people. How about the illiterates who have moved into our crowded central cities, many of whom cannot even read clocks?

Auxiliary Guest Day programs, to which leaders of other organizations are invited, serve as excellent public education forums and often result in later requests for speakers for participants' groups, thus extending the health education process. Auxiliary Guest Day meetings also serve to create community awareness of specific problems, develop a climate of public opinion receptive to taking the steps necessary to solve the problems, and motivate other citizens and groups toward adding their weight to bettering the health of the community. The overall impression of these Auxiliary sponsored meetings is enhancement of the medical profession's image of stature in meeting civic responsibility, of really "caring."

With the advent of Medicare, the personnel shortage in the health field is, of course, more acute than ever. In addition to active recruitment of top caliber young people, not only to the study of medicine but to all the supportive ancillary areas, the national Auxiliary has raised $2,500,000 for the AMA-Education and Research Foundation, $345,573 this past year. One out of every six medical students and interns participates in this program. In addition $514,574 was also raised this year by Auxiliaries throughout the country for loans and scholarships for careers allied to medicine.

Other active Auxiliary committees are concerned with Safety and Disaster Preparedness, Rural Health, Community Service with special emphasis on problems of the elderly, and collection of drug samples, textbooks and other supplies under the Committees on International Health.

During this time of heated debate over Medicare regulations, the Auxiliary's secondary purpose, "to promote good fellowship among physicians' families," has loomed more important than at any time since depression days. All Auxiliaries, regardless of size, serve organized medicine well by providing cohesiveness and understanding within the profession through congenial social gatherings.

We physicians' wives feel fortunate to have the Auxiliary organization available to us as a means through which we can contribute "to the advancement of medicine and the public health," to our parent medical organizations, and to our personal fulfillment as individual citizens. It is recognized by sociologists that volunteer participation in the community is required for personal reasons and, most of all, because our kind of

Mrs. Richard A. (Betty) Sutter, the author of the accompanying article, is well qualified to answer her own question, "Who needs a medical auxiliary?" She is the immediate past President of the Woman's Auxiliary to the American Medical Association, past President of the Missouri State Auxiliary and of her own St. Louis County Auxiliary. She also has been active in voluntary health organization work and in numerous civic affairs, and has been repeatedly honored for the leadership which she has displayed in these activities. Mrs. Sutter is an outstanding example of the reservoir of intelligence, energy and enthusiasm which organized medicine has at its disposal, but which organized medicine has been so often remiss in utilizing.

democratic society demands it. It is through voluntary organizations that the individual citizen is able to make his or her voice heard and to play an actual role in the mainstream of events. As we see greater responsibility for health and hospital services being assumed by governmental agencies, the more important becomes the watchdog role of community groups.

Other community agencies, such as hospitals, actively recruit doctors' wives to work for their causes. Medical Auxiliaries stand ready and waiting to assist Medical Societies wherever called upon, but they are "auxiliary to" and not independent. It is up to each Medical Society to do more "calling upon," to work for closer liaison with this greatly untapped source of volunteer power and to bring Auxiliaries up to their full potential as real auxiliary partners of Medicine.

COMMENT . . .

Our Readers Write

Dear Dr. Finnegan:

Too often we fail to "count our blessings." From a surgeon's standpoint, the greatest blessing possible is a capable anesthesiologist. The development of a number of well-trained doctors who have made a practical science of preparing patients for, bringing them through and following them after major surgical procedures is one of the most important changes in the field of medicine since World War II, in our opinion. Yes, there are some excellent nurse anesthetists, and we need more. However there is no comparison as to their over-all effectiveness.

If you operate without the services of an M.D. anesthetist, you may not know what you are missing! An anesthetist who is a doctor of medicine, understanding pathology, pharmacology, physiology, anatomy and bacteriology in addition to medicine, surgery, obstetrics, neurology and psychiatry is extremely valuable as a member of the surgical team. In addition to the duties just mentioned, he may supervise the Recovery Room and Intensive Care Department. He gives valuable consultation in pain problems, drug overdosage, poisoning, tetanus, management of unconscious patients and in many other areas.

These dedicated men deserve more credit than they are generally receiving. They are the guards and tackles of the medical football team. Let's not let our hospitals mistreat them. Encourage capable young medical students to enter the field of anesthesiology.

Charles P. McGinty, M.D.
Melvin C. Kasten, M.D.
Cape Girardeau, Missouri

President's Message

In March of this year the House of Delegates of the Missouri State Medical Association approved a $10.00 a year increase in MSMA dues. In June of this year the House of Delegates of the American Medical Association approved a $25.00 a year increase in AMA dues.

Although no one can be expected to greet these actions with shouts of joy, it seems that such increases are a part of our current economic situation. Indeed, like Alice on her well known journey through the looking glass, medical associations are finding that "it takes all the running you can do, to keep in the same place." Dues increases are needed just to maintain the level of service which the associations have provided over the years.

In addition to the added expense of merely keeping "in the same place," medical organizations in recent years have been faced also with the problem of meeting the demands of their members for new and expanded services. Even a cursory review of the proceedings of the governing bodies of MSMA or AMA will verify this assertion. Item after item calls for initiation of new programs, extension of existing activities, study of rapidly changing facets of medical practice, etc. Much of this increased activity is, of course, directly related to the increasing involvement of government in the health care field.

As long as members of a not-for-profit organization demand more and more service from their organization, they must be ready to pick up the bill for the resulting higher expenses. At the same time, the elected officers of the organization should be ready to assume added responsibility for the wise and effective dispersal of the additional dues dollars.

I can assure members of MSMA that your officers will assume their responsibility.

Byron M. Stuart, M.D.

"All Interns are Alike"

It stands to reason. They all go through the same training; they all have to pass the same tests; they all have to measure up to the same standards; they all are underpaid, too. Therefore, all interns are alike.

That's utter nonsense, of course. But it's no more nonsensical than what some people say about aspirin. Namely: since all aspirin is at least supposed to come up to certain required standards, then all aspirin tablets must be alike.

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So next time you hear someone say that all aspirin tablets are alike, you can say, with confidence, that it just isn't so.

You might also say that all interns aren't alike, either.

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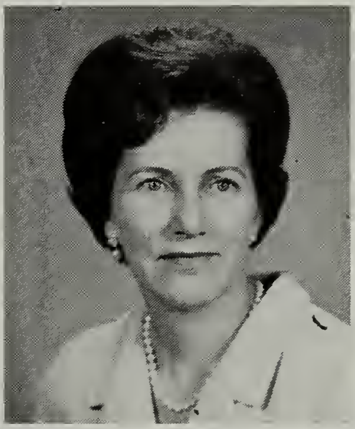
Woman's Auxiliary

The Board of Directors of the AMA Education and Research Foundation sought the help of the Auxiliary in supporting its program which is financed through AMA-ERF, not through the AMA budget. Private industry and other foundations have been approached and many have responded enthusiastically.



Mrs. Wallace R. Stacey

Until this year, all money collected by the Auxiliary through its AMA-ERF Committee has gone to the following branches:

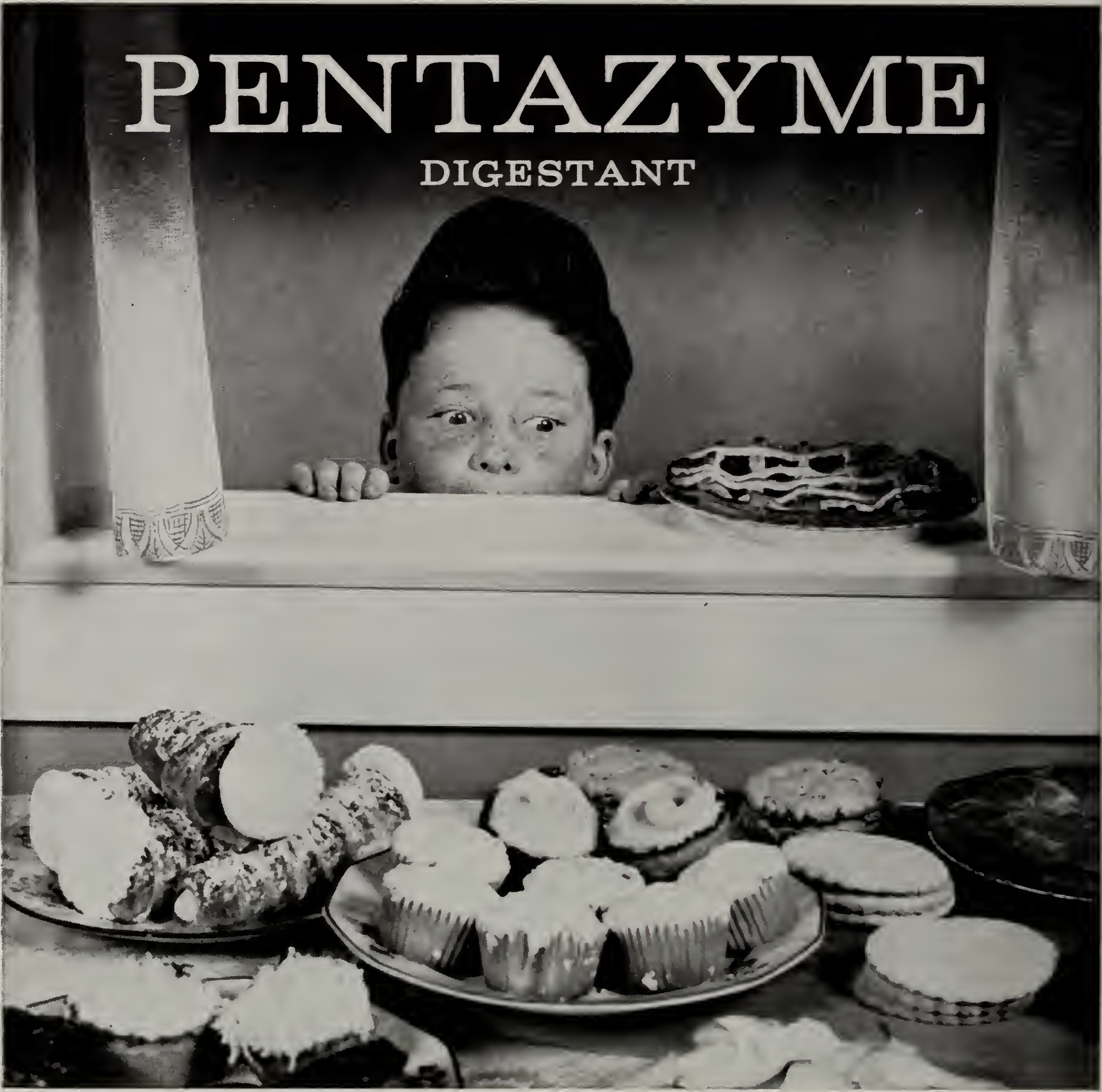
1. *Funds for medical schools*—unrestricted use.

2. *The loan guarantee fund*—provides loans for students, interns and residents.

For the year 1966-67 we have added:

3. *The Institute for Biomedical Research*—Dr. F. J. L. Blasingame has said, "Medical research is the backbone of medical practice—there is need for independence and creative objectivity to make this research most productive. Because the Institute is being financed solely by private funds, our scientists will be able to make long-term commitments to fundamental problems."

The Missouri State Auxiliary has been proud to join the other 49 states in helping to further this program. It is only a small part of the effort we make in trying to support the medical profession.



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EDITORIALS

PHYSICIAN, SPEAK THY PIECE

(The following editorial was written by Robert L. Miles, M.D., Editor of the Bulletin of the Santa Barbara (Calif.) County Medical Society. It appeared in the May 1966 issue of that publication.)

It has recently come to my attention, mostly through rumors, that there are those in the Santa Barbara County Medical Society who differ in their opinions with some of the writings in this publication. This is good. I would wonder about me if there were not some differences. Any writer, speaker, or other person who tries to satisfy everybody will end up not pleasing anybody.

There are those who would criticize this Bulletin for sounding out against government intervention into the practice of medicine. To them I say, "Speak your piece." This Bulletin has and always will be available to the members for sounding their opinions. It has been stated here several times. If there are any articles that you would like to have printed, send them in to us. If there are Letters to the Editor, we will print them.

This is a time that no physician should sit back and keep his mouth shut. We are in the position now of having to put up with laws that we don't like because we kept our mouths shut too long because we were afraid of offending someone. There are those among us who would go along with anything depending on the way the current seems to go. They say that it is alright with them and say nothing. There are others who might feel that they did not like the way things were going but never let anyone else know their ideas. Then there are those who do not like things going along the way they are and stand up and so state their feelings. It is time that we in medicine say our mind. If we do not like the way the Federal government is doing their medical practice we must try to get the best we can.

Back in the Midwest all of the farms had weather vanes on the barn, henhouse or house. There was only one purpose for these vanes. That purpose was to tell the farmer which way the wind was blowing. He really didn't care. He would still go about his chores as per schedule regardless of the way the wind was blowing. Sometimes he would hesitate to fertilize a certain area because he didn't want the horse manure to blow back on him.

We should do the same thing. We should not sit down and say nothing and just go merrily the way the wind is blowing. One look at the governmental weather vane and you can see where the fertilizer is blowing. We must say our piece. As one of my Casey Bill patients put it the other day, "They let you see a first-class doctor and then compromise his ability with a second-class drug list and second-class restrictions."

This writer will continue to write his mind where the situation warrants it. If there are those who differ, then they should speak out also. I invite the comments of all members of the society. This is your Bulletin. It will always stay that way.

As George Bernard Shaw said, "Take care to get what you like or you will end up liking what you get."

AREA MEDICAL ORGANIZATION

At a recent meeting, the Council of the Jackson County Medical Society received and approved with high praise a report and recommendation of the Medical Council of the Metropolitan Area of Greater Kansas City. The proposal which generated the enthusiastic endorsement involves establishment of formal cooperation between the county medical societies in the Kansas City area. This concept had been discussed for several years, but time and again had bogged down in controversy.

Under the newly approved plan nine committees with representatives from each of the participating county societies will get to work on health and medical matters affecting the entire area. This appears to be a logical and practical development. In the modern metropolitan area, county and state lines virtually disappear when one is considering public information efforts, disaster preparedness, professional ethics, etc. It is an obvious waste of time and manpower for several medical societies to be working on a problem whose solution will apply to all of them.

The Greater Kansas City plan provides for nine area committees. These are: (1) Industrial Contract and Insurance, (2) Management, (3) Medical-Legal, (4) Public Information and Education, (5) Medicine and Religion, (6) Medical Disaster and Preparedness, (7) Medical Economics, (8) Public Health and Welfare, and (9) Careers in Medicine.

Even though the county medical societies join forces in working on area-wide problems, each will retain its autonomy and organizational structure.

It appears that the Medical Council of the Metropolitan Area of Greater Kansas City (despite its own rather cumbersome name) has taken a long step toward solving a problem which probably faces other medical societies in large population centers.

A PLEASANT THOUGHT FOR CHANGE OF PACE

A sign of the times is that if one must write, it must be about something distressing. To praise or display feeling of optimism is indicative of being either reactionary, sentimental, or at best, ill-informed. This, then, must be why I find this thing so hard to write. I fear that somehow or other I've allowed myself to be possessed by an uncomfortably pleasant thought!

It's like this.

Seemingly a long, long time ago—about a year —those physicians who had concerned themselves inordinately with the Medicare ogre faced up to this simple, terrible truth: the new health legislation was not really our big problem at all, merely a side issue. Our real problem was the regrettable situation of having a more-than-usual number of law-makers who could allow for such things as Medicare and the many other schemes that clearly were never intended to promote the well-being of our nation.

While it remained quite important for physicians to work hard to salvage what sensible things they could, it seemed ultimately more important for them to work even harder to help obtain the most sensible politicians they could.

I suspect doctors have always had somewhat of a distaste for politics. But it hardly seems proper for a group of the best educated, American-minded people to divorce themselves from such an important matter. The least each of us could do is to contribute to AMPAC, or go a step farther and actually pitch in and help a good man get elected. (There's nothing unethical about this.) Or perhaps even do something like we did on the Kansas side.

It all began about two months ago, mainly as a result of the prodding and spirited leadership of Dr. Michael Dietz. A small group from Wyandotte and Johnson counties formed an impromptu organization and called it the "Council of Physician Voters." The aim was to do what we could to help each of the 700 or so physicians living in the Third Kansas Congressional District decide which of the nine candidates they themselves would prefer to have as representative. On their own, it seemed doubtful that many physicians would take time to examine the beliefs of each of so many candidates. It seemed likely, then, that many might not vote at all; or worse yet, follow a will-o-the-wisp. In order to do the most good in trying to prevent this, the "Council" decided to interview each of the candidates individually, summarize its findings, poll approximately 45 doctors who were interested in the project and circulate the poll results plus a résumé of the interviews to each physician in the district.

All those who took part would probably agree that a great deal of energy was put into this, but an equal amount in satisfaction was returned. Our accomplishments were not earth-shaking. We did do our part, though, in helping an election to be as it should be.

I am happy to see a sizable number of doctors can take active interest in politics when aroused. It seems encouraging that in Kansas City, too, there are prospects of putting some excellent men in office. And above all, there are signs generally, that all may not be well in the realm of the Great Society, for even nice, gentle people can get their backs up when pushed far enough.

It's only human to wish for good to triumph over evil, but sometimes it does take a little looking to tell which is which.

H. F. COULTER, M.D., *President*
Johnson County (Kans.)
Medical Society
Greater Kansas City Medical Bulletin
August 27, 1966

ACCIDENT AND HEALTH INSURANCE

The Missouri State Medical Association since 1943 has made available to its members a Special Disability Income Benefits Policy issued by our "Loyalty Group" Companies now a part of the America Fore-Loyalty Group Insurance Companies—the largest casualty-fire underwriting group in the world. The low cost at which the policy is offered is made possible through the purchasing power of the membership of your association as a whole.

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New Members

Chris K. Fotopoulos, M.D., 101 E. 23rd Ave., Kansas City, has become a member of Jackson County Medical Society. Dr. Fotopoulos is a native of Omaha, Nebraska, received his preliminary education at Creighton University and his M.D. degree at Creighton University in 1960. He specializes in surgery.

John W. Irvine, M.D., 9503 E. 63rd St., Kansas City, has become a member of Jackson County Medical Society. Dr. Irvine is a native of Toronto, Canada, received his preliminary education at the University of Western Ontario and his M.D. degree at the University of Western Ontario in 1955. He specializes in ophthalmology.

Haven C. Kruegger, M.D., 116 Medical Plaza, Kansas City, has become a member of Jackson County Medical Society. Dr. Kruegger is a native of Wichita, Kansas, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1961.

Louise A. Morley, M.D., 4538 Main St., Kansas City, has become a member of Jackson County Medical Society. Dr. Morley is a native of Kansas City, received her preliminary education at the University of Kansas and her M.D. degree at the University of Kansas in 1938. She specializes in internal medicine.

In Memoriam

Shelden, John, M.D., Kansas City, a graduate of Kansas University, 1933; member of Jackson County Medical Society; aged 60; died July 2, 1966.

Tate, Lloyd L., M.D., St. Louis, a graduate of National Arts and Science University of St. Louis, 1917; member of St. Louis Medical Society; aged 77; died July 21, 1966.

Ready, James H., M.D., St. Louis, a graduate of St. Louis University, 1927; member of St. Louis Medical Society; aged 64; died August 8, 1966.

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Corcoran, A. C.: The choice of drugs in the treatment of hypertension. In: Drugs of Choice 1966-67, W. Modell, Ed., St. Louis, C. V. Mosby Company, 1966, p. 417.

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PROGRAM

Saturday, October 29 (Central Standard Time)

Hotel President, Kansas City

9:00 a.m. (CST) Business Session and Election of Officers.

ROUNDTABLE DISCUSSIONS

10:00 a.m. Table 1. **Cardiovascular Disease**—Maxwell G. Berry, M.D., Kansas City, Clinical Professor of Medicine, University of Kansas School of Medicine.

Table 2. **Surgical Complications**—Ralph R. Coffey, M.D., Kansas City, General Surgeon and Former Director of Surgery, Kansas City General Hospital.

Table 3. **Hormones**—Kermit E. Krantz, M.D., Kansas City, Kansas, Chairman, Department of Obstetrics and Gynecology, University of Kansas School of Medicine.

Table 4. **Skin Diseases**—Richard L. Sutton, Jr., M.D., Kansas City, Clinical Professor of Medicine (Dermatology), University of Kansas School of Medicine and Consulting Editor, **GP.**

Members of the audience will be able to move from table to table during the two hour discussion period, bringing questions they would like discussed at a particular table.

11:00 a.m. Intermission to Visit Exhibits.

11:30 a.m. **Continue Round Table Discussions.**

12:30 p.m. Lunch and Visit Exhibits.

SYMPOSIUM ON RECOGNITION AND MANAGEMENT OF EMOTIONAL PROBLEMS

2:00 p.m. **Recent Trends in the Use of Psychotropic Drugs**—Paul E. Feldman, M.D., Topeka, Kansas, Director of Research, Topeka State Hospital.

2:20 p.m. **Recognizing Suicidal Problems**—Henry V. Guhleman, Jr., M.D., Jefferson City, Clinical Professor of Psychiatry, University of Missouri, Columbia.

2:40 p.m. **Psychosomatic Ills of Children**—Paul C. Laybourne, M.D., Kansas City, Kansas, Professor of Psychiatry and Associate Professor of Pediatrics, University of Kansas School of Medicine, and Director, Division of Child Psychiatry, Kansas University Medical Center.

3:00 p.m. Intermission to Visit Exhibits.

3:30 p.m. **Differentiation of Anxiety and Depression**—James N. Haddock, M.D., St. Louis, Clinical Professor of Psychiatry, Washington University School of Medicine.

3:50 p.m. **Management of Hysteria in Children**—Paul C. Laybourne, M.D., Kansas City, Kansas.

4:10 p.m. **Psychiatric Aspects of Aging**—Paul E. Feldman, M.D., Topeka, Kansas.

4:30 p.m. Panel Discussion.

PRESIDENT'S INSTALLATION BANQUET

7:30 p.m. Banquet Speaker—**Charles J. Mencel**, Minneapolis, General Sales Manager of the Marquette Corporation. Mr. Mencel will discuss health and safety aspects of automotive engineering.

Sunday, October 30 (Central Standard Time)

GENERAL SCIENTIFIC SESSION

9:00 a.m. **"Was It Murder?"**—Charles B. Wheeler, Jr., M.D., LL.B., Kansas City, Coroner, Jackson County, Missouri.

9:20 a.m. **Medical Problems in South Viet Nam**—William J. Shaw, Sr., M.D., Fayette, member, first Project Viet Nam medical team.

9:40 a.m. (To be announced.)

10:00 a.m. **Alcoholism—Sickness or Sin?**—Joseph B. Kendis, M.D., St. Louis, Consultant on Alcoholism, Missouri Division of Mental Diseases.
10:20 a.m. Intermission to Visit Exhibits.
11:00 a.m. **Hyperbaric Medicine**—Johannes A. Kylstra, M.D., Ph.D., Durham, N. C., Assistant Professor of Medicine and Physiology, Duke University School of Medicine.
11:20 a.m. **Infidelity in Marriage**—Bertrand Y. Glassberg, M.D., St. Louis, Instructor in Clinical Medicine, Washington University School of Medicine; member, American Association of Marriage Counselors.
11:40 a.m. **Office Detection of Cervical Cancer**—Charles W. Pemberton, M.D., Washington. D. C., Medical Officer, Cancer Control Branch, U. S. Public Health Service.
12:00 noon Panel Discussion.
12:20 p.m. Lunch and Visit Exhibits.

SYMPOSIUM ON SOFT TISSUE TRAUMA

1:30 p.m. **Management of Lacerations**—Hal G. Bingham, M.D., Columbia, Associate Professor of Surgery (Plastic), University of Missouri School of Medicine.
1:50 p.m. **Crush Injuries of the Extremities; Medical and Surgical Considerations**—George Austin, M.D., Baltimore, Professor and Chairman, Division of Orthopedic Surgery, University of Maryland School of Medicine.
2:10 p.m. **Management of Gunshot Wounds of the Extremities**—Thomas S. Culley, M.D., Columbia, Assistant Professor of Surgery (Orthopedic), University of Missouri School of Medicine.
2:30 p.m. Intermission to Visit Exhibits.
3:00 p.m. **Ligament Injuries of the Ankle**—Lynn D. Litton, M.D., Columbia, Professor of Surgery, Section of Orthopedic Surgery, University of Missouri School of Medicine.
3:20 p.m. **Entrapment Neuropathies and the Carpal Tunnel Syndrome**—Robert D. Baer, M.D., Columbia, Assistant Professor, Section of Physical Medicine, University of Missouri School of Medicine.
3:40 p.m. **Soft Tissue Injuries to the Lumbo-Sacral Region**—George Austin, M.D., Baltimore.
4:00 p.m. Panel Discussion.
4:30 p.m. Adjournment.

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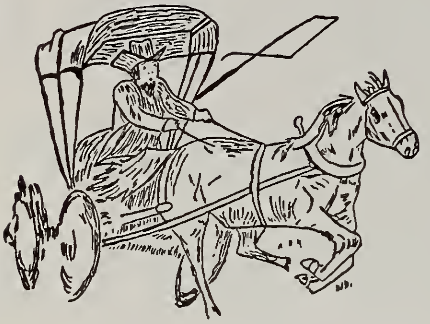
Missouri Medicine in Review



There should be a chuckle or two for every doctor in this "dedicated" poem written 32 years ago by the late G. W. Vinyard, M.D., of Jackson. Our appreciation goes to Charles E. Fallett, M.D., of DeSoto who brought it to the attention of Missouri Medicine with this accompanying note:

"Preparatory to a European vacation, I cleaned my desk and found the attached poem which I thought might be of interest for use in our magazine. George Washington Vinyard, a native of Southeast Missouri, was a charter member of the Southeast Missouri Medical Association which, I believe, was the first medical association west of the Mississippi River. Dr. Vinyard was well known for his mental acuity and ability to make an interesting talk on most any subject anywhere without preparation."

PROGNOSIS CONCERNING THE LONGEVITY OF THE GOOD OLD SOUTHEAST MISSOURI MEDICAL ASSOCIATION

When the Southeast Missouri Medical Association dies,
'Twill be when medical progress reaches the end;
When dung hills cease to produce flies
And tadpoles stand on end,
When the hen eats like an ox
And the fishworm swallows the whale,
When terapins knit woolen socks
And the hare is outrun by the snail,
When serpents walk upright like men
And tumblebugs travel like frogs,
When grasshoppers feed on the hen
And feathers grow on the hogs,
When Thomas cats swim in the air
And elephants roost on trees,
When insects in summer are rare
And snuff never makes people sneeze,
When fish creep over dry land
And mules on bicycles ride,
When foxes lay eggs in the sand
And women in dress take no pride,
When Dutchmen no longer drink beer
And girls get to Church on time,
When billy goats butt from the rear
And fornication no longer is a crime,
When the humming bird brays like an ass
And Limburger smells like cologne,
When plowshares are made out of glass
And the hearts of the people are stone,
When altruistic ideas grow in a goldbug's head
And wool on the hydraulic ram,
Then will the Southeast Missouri Medical Association be dead
And medical practice won't be worth a d--n.

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Information for Contributors

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Illustrations should be glossy prints or drawings in India ink on white paper. They should not be mounted and name of author and figure number should be penciled lightly on the backs. Legends should appear on a separate sheet. Colored illustrations will be used when suitable if author assumes the actual cost.

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And for your patient's sake, prescribe Alertonic in the convenient, economical one-pint bottle.

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Each 45 cc. (3 tablespoonfuls) contains: alcohol, 15%; pipradrol hydrochloride, 2 mg.; thiamine hydrochloride (vitamin B_1) (10 MDR*), 10 mg.; riboflavin (vitamin B_2) (4 MDR), 5 mg.; pyridoxine hydrochloride (vitamin B_6), 1 mg.; niacinamide (5 MDR), 50 mg.; choline,† 100 mg.; inositol,† 100 mg.; calcium glycerophosphate, 100 mg. (supplies 2% MDR for calcium and for phosphorus) and 1 mg. each of the following: cobalt (as chloride), manganese (as sulfate), magnesium (as acetate), zinc (as acetate), and molybdenum (as ammonium molybdate).

*Multiple of adult Minimum Daily Requirement supplied.
†The need for these substances in human nutrition has not been established.

Indications: 1. Functional fatigue such as that often associated with: a depressing life experience or stressful time of life; advancing years; convalescence; limited activity or confinement. 2. Poor appetite and vitamin-mineral deficiency as they occur in: patients having faulty eating habits; geriatric patients who are losing interest in food; patients convalescing from debilitating illness or surgery.

Dosage: Adults, 1 tablespoonful; children (over 15 years old), 1 to 2 teaspoonfuls; children (4 to 15 years old), 1 teaspoonful. To be taken three times daily 30 minutes before meals.

Contraindications: As with other drugs with CNS stimulating action, Alertonic is contraindicated in hyperactive, agitated or severely anxious patients and in chorea or obsessive compulsive states.

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medical melange

Notes of interest from Here . . . . and There

Two new antibiotics can be added to the three previously considered generally effective in the treatment of streptococcal disease, according to three Rochester, New York pediatricians. Doctors B. B. Breese, F. A. Disney and W. B. Talpey report in *American Journal of Diseases of Children* (July, 1966) that they evaluated the effectiveness of Lincocin (lincomycin, Upjohn), the newest of the generally available antibiotics, along with ampicillin in a study involving about 300 children with B-hemolytic streptococcal infections. In their final analysis, the two new drugs proved to be as effective as the three older antibiotics—penicillin, erythromycin, triacetyloleandomycin—generally considered most useful in streptococcal infections. Adverse reactions to the antibiotics were generally mild and similar to those found among penicillin-treated children.

Curtis H. Lohr, M.D., who has retired after 29 years as superintendent of St. Louis County Hospital, was the honored guest at a testimonial dinner given by the hospital's medical staff.—**Marvin T. Haw, Jr.**, M.D., and **George L. Basham**, M.D., have joined the medical staff at Fulton State Hospital where they have been assigned to the acute and intensive treatment service of the hospital.

As a service to both the medical profession and the public-at-large, the American Academy of Facial Plastic and Reconstructive Surgery, Inc., has developed a new folder, *Plastic Surgery*, which they believe to be the only one of its type currently available. Purpose of the brochure is to help educate the public about important aspects of plastic surgery, correct several false impressions and answer many of the more common questions. The Academy recommends distribution of the brochure to doctors for use in their offices or reception rooms where it can be read by patients. Cost is $3.00 per 100. Order from Jack R. Anderson, M.D., Secretary, 322 California Company Building, 1111 Tulane Ave., New Orleans, La. 70112.

A comprehensive and organized presentation of the metabolism of steroid hormones is contained in a new, three-dimensional, multi-colored wall chart compiled by Dr. Ralph I. Dorfman, director of the Institute of Hormone Biology, and Dr. Dinesh C. Sharma, head of the Institute's Steroid Biochemistry Department. It is being distributed by Holden-Day, Inc., of San Francisco. Syntex has a copyright. The chart is designed to aid researchers, physicians, instructors and others in investigations, clinical diagnoses and teaching curriculums. The formulas and scientific names of more than 300 metabolites are given. In running a metabolism test on a patient, a physician comparing a clinical result against a norm will be able to pinpoint where an enzymatic reaction has failed.

Forty physicians who have been on the medical staff of Cardinal Glennon Memorial Hospital in St. Louis since it opened in 1956 were honored at a dinner and presented awards of recognition by Donald L. Barnes, Jr., president of the hospital's board of governors.—**Dr. William J. Acuff**, a native of Caruthersville, is now associated with **Dr. C. F. Cain** at the Clinic in that community.—**Dr. Claude J. Allen**, who has practiced medicine in Rich Hill for almost 60 years, celebrated his 80th birthday September 2. Dr. Allen remains active in the practice of medicine in Rich Hill and surrounding territory. In April, 1965, he completed 100 years of practice by a Doctor Allen in Rich Hill. His father was one of the first doctors there.

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AMA Congress on Socio-Economics of Health Care

The effective organization and delivery of health services will be examined in depth at the First National Congress on the Socio-Economics of Health Care, scheduled for January 22-23, 1967 in Chicago.

The Congress, sponsored by the Council on Medical Service and the Division of Socio-Economic Activities of AMA, will be held at the Palmer House. It will bring together authorities from medicine, health care administration, social science, education, community planning and other disciplines to report on new issues, developments and techniques in the organization, delivery and financing of health care services.

According to George W. Slagle, M.D., Battle Creek, Michigan, Chairman of the Council, the meeting will serve as a national forum for interchange of information and opinion among the many areas of society concerned with this subject. Through a series of presentations and discussion sessions, conference participants will explore current health status of the population, impact of medical and social changes on patterns of health care, the changing role of the hospital and its medical staff in the community, new methods in training and utilization of health manpower, and financing of health services.

Additional information, including registration details, may be obtained from the Department of Health Care Services, American Medical Association, 535 North Dearborn Street, Chicago, Illinois 60610.

Continuing Education Coming Events

Nov. 2-Mar. 1	**Post-Graduate Conferences for Practicing Physicians** Department of Internal Medicine St. Louis University School of Medicine Cardinal Glennon Hospital Auditorium, St. Louis (6 hours, each session)
Nov. 4-5	**M.D. Day** Continuing Education, M.U. School of Medicine Medical Center, Columbia
Nov. 9 & 23	**Psychiatric Problems Seminars** Continuing Education, School of Medicine St. Louis University, St. Louis
Dec. 7-8	**Current Concepts in Arthritis** Continuing Education, M.U. School of Medicine Medical Center, Columbia

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Corcoran, A. C.: The choice of drugs in the treatment of hypertension. In: Drugs of Choice 1966-67, W. Modell, Ed., St. Louis, C. V. Mosby Company, 1966, p. 417.

Indications: DIUTENSEN-R may be employed in all grades of essential hypertension. **Dosages:** Usual dose is 1 tablet twice daily, at morning and evening meals. However, adjustment of dosage to suit individual circumstances may be required. Please refer to package insert for full particulars. **Side effects and precautions:** The side effects observed with patients on DIUTENSEN-R have been of a mild and nonlimiting nature. These include occasional urinary frequency, nocturia, nasal congestion, muscle cramps, skin rash, joint pains due to gout symptoms and nausea and dizziness which have been reported for the individual components. Most of these symptoms disappear while the drug is continued at the same or lower dosage level. The concomitant use of digitalis and DIUTENSEN-R may increase the possibility of digitalis-like intoxication. If there is evidence of myocardial irritability (extrasystoles, bigeminy or AV block), dosage of DIUTENSEN-R should be reduced or discontinued. Nocturia in patients with marginal cardiac status and salt and fluid retention can be effectively controlled by limiting the time of administration to early afternoon. DIUTENSEN-R should not be used in patients with a known intolerance to reserpine. Package inserts furnish a complete summary of recommended cautions related to each of the ingredients of DIUTENSEN-R.

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Welcome to the New Office of . . .

MISSOURI STATE
MEDICAL
ASSOCIATION
Entrance

On September 1, 1966 the Missouri State Medical Association officially opened its new office in the Medical Arts Building, 515 E. High Street, Jefferson City. Executive Secretary Raymond McIntyre reported that the move from St. Louis was accomplished with a minimum of difficulty and that routine Association work continued without interruption.

Ray McIntyre

Remaining behind in St. Louis was Thomas R. O'Brien, former long-time Executive Secretary, who was forced to resign from that post last year because of health reasons. He will continue to serve the Association as an Executive Assistant and will continue to serve as Executive Director of Missouri Medical Service (St. Louis Blue Shield).

Tom O'Brien

With Mr. McIntyre, three other "old hands" made the trek from St. Louis to Jefferson City. Mrs. William I. (Bert) Thomas was the only one of four office "girls" to make the move. Mrs. Thomas has been with MSMA for 23 years and serves as Office Manager.

Bert Thomas

Thomas P. Fox joined the Association staff in 1961 bringing with him an extensive background in hospital administration. As another Executive Assistant, he is responsible for the affairs of the Missouri State Medical Foundation and for servicing several of the Association's committees which deal with paramedical matters.

Tom Fox

Allen Smith

Allen D. Smith, the newest of the "old hands," has been with the Association for two years. With an extensive background in broadcast journalism and public relations, he is Managing Editor of MISSOURI MEDICINE, handles arrangements for commercial exhibits at MSMA Annual Sessions and has primary responsibility for the Association's lobbying activities.

(Continued on page 883)

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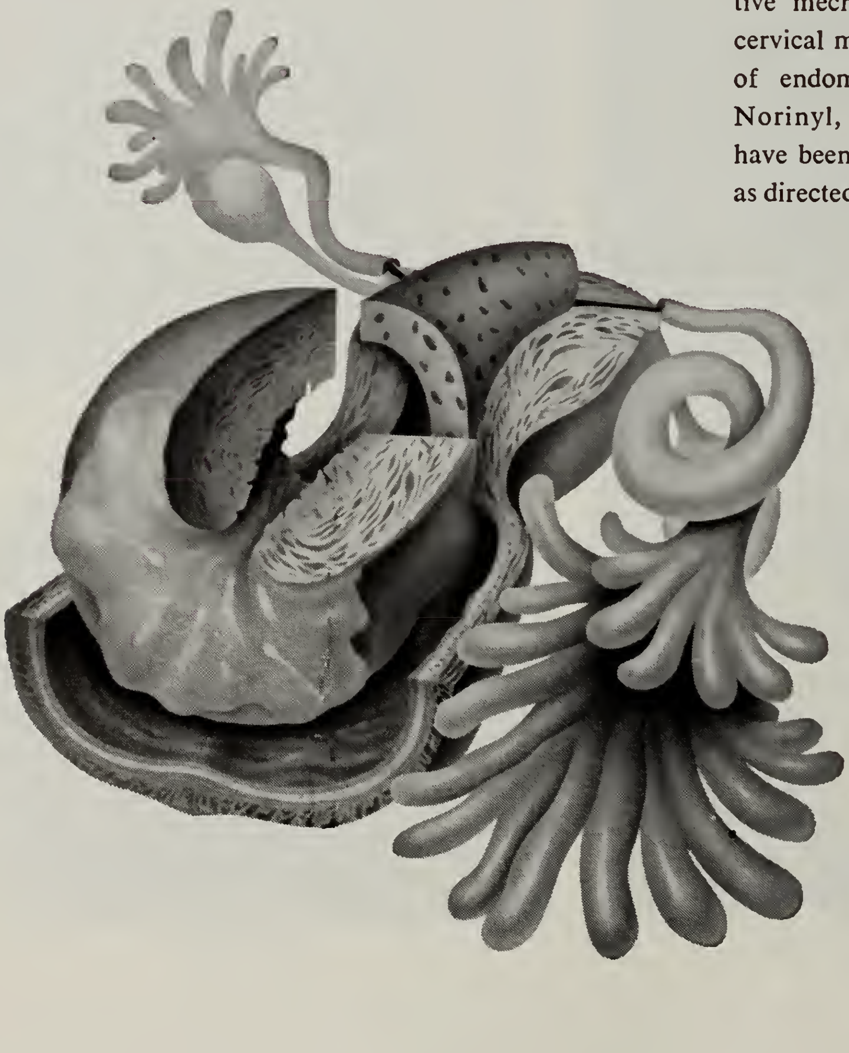

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Welcome to the New Office

(Continued from page 879)

Among the "new hands" . . .

Mrs. Thomas J. (Wilma) Sperry has assumed fulltime responsibility for MSMA book-keeping and membership records. Mrs. Sperry spent three years in a similar position with the Jackson County Medical Society in Kansas City, so she brings valuable association "know how" to her job.

Ruth Pack

Mrs. Charles J. (Gladys) Grimes is the second general office secretary. Because of past experiences, she will take most of the responsibility for maintaining the Association's mailing lists and operating the automatic addressing equipment.

Jean Duensing

Wilma Sperry

Mrs. Stanley H. (Ruth) Pack has been employed as one of two general office secretaries. She will work closely with Mr. Fox in handling correspondence and records of the Medical Foundation.

AMERICAN MEDICAL DIRECTORY
23rd EDITION 1965
PART II

Gladys Grimes

Miss Jean Duensing is the fourth of the "new hands." With a background in journalism, advertising and public relations, she was employed to handle most of the production work on MISSOURI MEDICINE. In the future she will also assist in implementing various MSMA public service and public information programs.

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DOYLE C. McCRAW, M.D., *Bolivar*
Chairman, MSMA Public Relations Committee

AMA's Public Relations Institute: 1966

THE ANNUAL PUBLIC RELATIONS INSTITUTE has become one of the AMA's best and most popular (from an attendance standpoint) nonscientific projects. This annual affair brings to the leaders of organized medicine some of the nation's top experts in the fields of public relations and communications, and it spotlights those physicians and medical society executives who have demonstrated "know how" in inspiring, planning and implementing PR projects by their own societies.

The 1966 Institute was held in Chicago, August 25-26. F. J. L. Blasingame, M.D., Executive Vice President of the AMA, established the pace for the meeting by outlining the nine major challenges which medicine must meet. They are:

1. The challenge of improving all communications with the general public in order to counteract "the professional muckrakers" and those who try to influence the public with "distorted information" and "half-truths."

2. The challenge of improving physician-patient relationship, a relationship which has, in many instances, broken down under the press of time and patient-load.

3. The challenge of practicing the "art of medicine," remembering that "a dissatisfied patient is a potential enemy; and a satisfied patient is almost always a staunch friend and supporter."

4. The challenge of holding the cost of medical care as low as possible, "commensurate with adequate, quality care."

5. The challenge of promoting the utilization of voluntary insurance and prepayment plans to finance health care.

6. The challenge of developing and guiding programs to provide medical and health care outside of institutions.

7. The challenge of continuous re-examination and reorganization of the policies and programs of organized medicine, striving always to anticipate or adjust to the challenges of a changing society.

8. The challenge of improving communication and liaison with specialty groups in an effort to "make the AMA even more representative of all of medicine."

9. The challenge of reviewing and clarifying professional ethics in respect to recent laws and current "economic motivation."

The rest of the one-and-a-half day Institute was devoted to probing for effective means to meet these challenges, either directly or indirectly. Through all of the presentations which followed, one basic theme appeared repeatedly. That is, that good public relations so far as the medical profession is concerned ultimately rests on good personal relations between one patient and one doctor. Otis D. Wolfe, M.D., of Marshalltown, Iowa, voiced this theme when he called attention to "the basic truth that in the last analysis, an individual's opinion of the medical profession is usually colored by his experience with an individual doctor."

John M. Chenault, M.D., of Decatur, Alabama, suggested two long range programs which can enhance medicine's image . . . (1) a properly functioning grievance committee and (2) a well supported emergency call service. Both projects should be well publicized and the public should be invited to make use of them. An effective grievance committee is a graphic demonstration of "the capacity and the willingness of the profession to discipline itself in the public interest."

Doctor Chenault also proposed that state and county medical societies should be ready and able to answer questions concerning the rising costs of medical care; and should be acquainted with and recognize problems of newspaper editors and TV-radio managers.

Mrs. Karl F. Ritter, President-Elect of the Woman's Auxiliary to the AMA, reminded the Institute that doctors' wives are organized, ready and willing to assist in the public service programs of organized medicine. She urged increased utilization of the Auxiliary in these programs.

Orville E. Harper, M.D., of Abilene, Texas, emphasized the "individual responsibility" aspect of medical public relations. He proposed that organized medicine should spend more time educating and informing physicians on the problems and potentials of good public relations.

Baker Hubbard, M.D., Nashville, Tennessee, also stressed the argument that "good public relations rests with the individual." He outlined a series of specifics which the individual doctor can use as the base for his own PR program:

1. Be ready and willing to discuss and explain fees to patients; provide an itemized bill.
2. Be careful to budget office time to avoid long waits by patients. (If delay is unavoidable, have the receptionist volunteer an explanation to waiting patients.)
3. Keep fees reasonable.
4. Respond to emergency calls. (Participate in medical society's emergency call service program.)
5. Avoid telephone diagnosis.
6. Maintain good PR in the reception room. (This may involve educating office staff in good manners.)
7. Provide coverage for patients during vacation or other absence.
8. Find time for public service and non-medical activities and, in so doing, maintain an awareness of the thinking and attitudes of the non-medical community.

One of the nation's leading practitioners of public relations, Mr. Philip Lesly, made a presentation which could have been expanded into a PR textbook. He reviewed the economic, social, cultural and psychological contexts which any public relations effort must take into consideration if it expects to achieve any degree of success. Effective public relations is becoming more difficult to achieve because "the more any group advances in mastery of its own field, the more certain it is to get out of touch with the rest of the population."

Mr. Lesly concluded that "only by keeping alert and sensitive to the trends of human attitudes and the ways to mesh our purposes into them will we make possible public relations successes in the future."

Charles L. Hudson, M.D., AMA President, closed the 1966 Institute by calling on the profession to "look for bold new approaches to the whole subject of national health care."

"We must offer leadership in finding problems where they exist and in developing workable solutions," he said. "If we fail to do this, we shall find ourselves in the position of constantly reacting to somebody else's proposals rather than acting upon our own."

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DONALD J. MEHAN, M.D. *and*
JOHN A. GANTZ, M.D., *St. Louis*

The Application of the Renal Scan in Urology

Case Reports

A review of certain urologic conditions in which renal scanning has shown value as a complement to the more routine diagnostic procedures. The authors have based their work on 107 consecutive renal scans and offer ten case reports. They discuss materials and methods, interpretation, nonvisualization, renal fusion and ectopia, filling defects, hypertension, iodine allergy and uremia and results. Doctor Mehan is in the Department of Urology at the St. Louis University Group of Hospitals and Chief of Unit II Urology at the St. Louis City Hospital. Doctor Gantz is in the Department of Medicine and Nuclear Medicine at the St. Louis University Group of Hospitals.

The utilization of radioisotopes for both therapeutic and diagnostic purposes has become well established as an integral part of our medical armamentarium. Selectively concentrated in renal parenchyma, radioactive mercury (Hg 203 or Hg 197) has proven quite valuable in urologic diagnosis when urologists join with their colleagues in nuclear medicine.

Our purpose in this paper is to review certain urologic conditions wherein scanning has shown its value. Renal scanning with Mercury 203 is safe, readily available, easily employable in most radioisotope laboratories, and accurate when used in appropriate situations. Conventional methods display the collecting system. Radioisotope scanning displays renal tubular tissue and is dependent upon (as well as proportional to) vascular flow.

In addition to confirming impressions gained by routine radiographic studies, scans may be of benefit diagnostically in patients allergic to iodides when the uremic state precludes pyelographic examinations by intravenous methods, and in those instances when urethral instrumentation is either undesirable or unsuccessful. Congenital anomalies, such as ectopic, horseshoe and multi-cytic kidneys, as well as nonfunctioning segments and fetal lobulation are beautifully delineated by scan without instrumentation. Acquired lesions, cysts, tumors, atrophy and vascular conditions, although identifiable on scans, are less reliably differentiated.

Material and Methods

All patients received chlormerodrin tagged with radioactive Mercury 203 intravenously one hour before scanning. During this hour counts were obtained over both kidneys with the probe of the conventional three inch crystal Magna-Scanner at five minute intervals and plotted as a differential rate of uptake.

Scanning was begun approximately 60 minutes following injection of the chlormerodrin. Patients were placed in a comfortable, prone position. Calibration of the instrument was performed at the end of the one hour period. The 19-hole focusing collimator was used with the large light collimator. Scan speed was approximately 24 cm per minute with spacing at .35 cm. (We felt the narrower spacing led to less "scalloping.") The background cutoff was 0-15% averaging approximately 10%. The density was approximately 75 and the C.R.D. was 40. The spectrometer was set at 230 to 320 K.E.V. The average time for each scan was approximately 30 to 45 minutes. The patients were scanned from a level at least 5-6 cm above the presumed level of the kidneys and the scan was carried to an equal distance below. This maneuver, of course, was carried to greater lengths if there was any suspicion of ectopic or asymmetrical kidneys. Suspicion would be based on previous urological maneuvers and by monitoring the dot scan accompanying the photo-scan.

Interpretation

Photo-scans are interpreted visually in a conventional viewbox. Size, shape and position are noted and consideration for respiratory motion given. Kidneys are considered normal in size if they range from approximately 10-15 cm with no greater than 1-1½ cm difference in their length. Bilaterally diffuse distribution of radioisotopes was required for a "normal" interpretation. Abnormalities or defects were required to be greater than 2 cm in diameter. A patchy or "salt and pepper" appearance was considered abnormal. In this series one of our patients had a blood urea nitrogen level of 113 mg %. There was no case of failure to visualize kidneys due to poor renal function.

Results

One hundred and seven consecutive renal scans were included in this study. Sixty-four of these were considered normal, although five cases showed no uptake unilaterally in patients with a known prior nephrectomy. Of the 43 scans interpreted as abnormal, 17 were on the basis of an anatomic deformity. The 26 remaining abnormal scans were considered to be so because of a size differential in the kidneys greater than 1.5 cm, bilateral atrophic changes or a differential rate of uptake of greater than 0.2. In this latter series of cases scans were beneficial in lateralizing the lesion in hypertensives and demonstrating the bilaterality of the disease in parenchymatous conditions such as pyelonephritis, nephrosclerosis and the like.

Non-visualization

Non-visualization occurred in five cases due to a variety of causes: two in patients with a congenital absence of one kidney; one following prolonged ureteral obstruction by calculi; one with massive hypernephroma; and one instance of a congenital ureteropelvic obstruction with secondary cortical atrophy.

Case Reports

Case # 1. A 72-year-old white female was referred for urologic evaluation because of hematuria and a large mass in the right flank. Intravenous pyelograms showed a normal left kidney without evidence of excretion of contrast media on the right. A renal scan (Fig. 1) showed a normal left kidney without visualization on the right. Retrograde pyelography (Fig. 2) shows a large renal tumor confirmed at surgery.

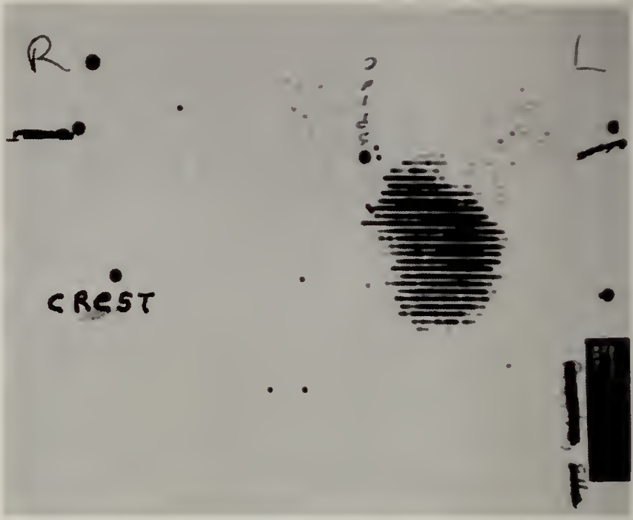

Fig. 1 Hypernephroma. Case # 1. The right kidney could not be visualized in this patient due to a massive tumor. The left appears normal.

Case # 2. A 35-year-old white male was evaluated urologically for mild left costovertebral angle distress. Intravenous pyelograms demonstrated a large

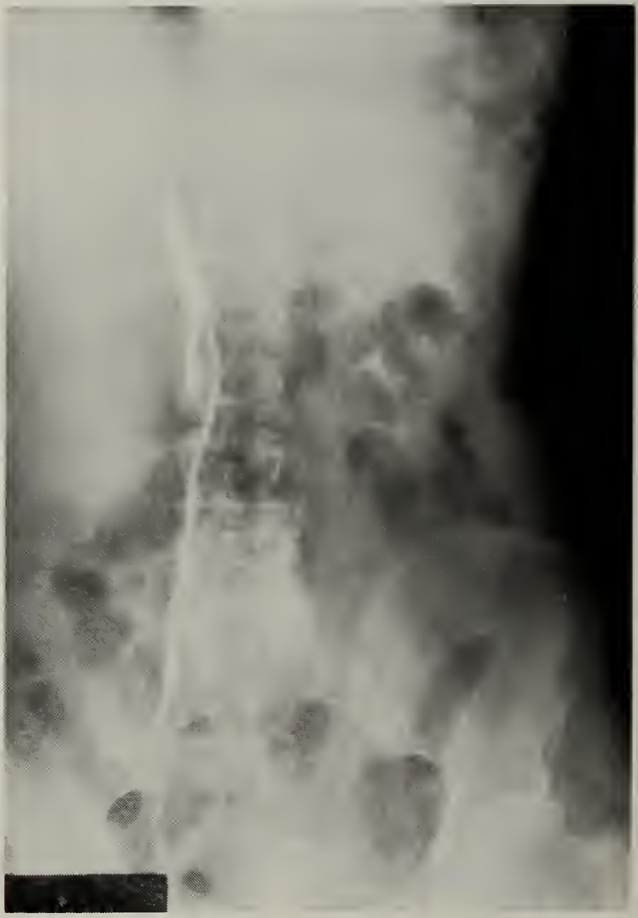

Fig. 2 Retrograde pyelogram outlining massive tumor in the right kidney. Case # 1.

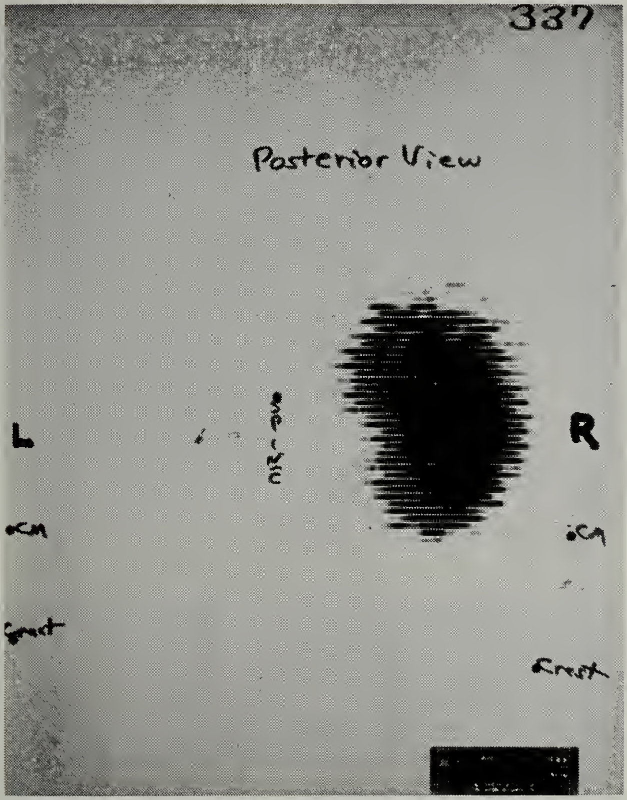

Fig. 3 Hydronephrosis. Case # 2. The left kidney could not be visualized in this patient with a ureteral pelvic obstruction and hydronephrosis.

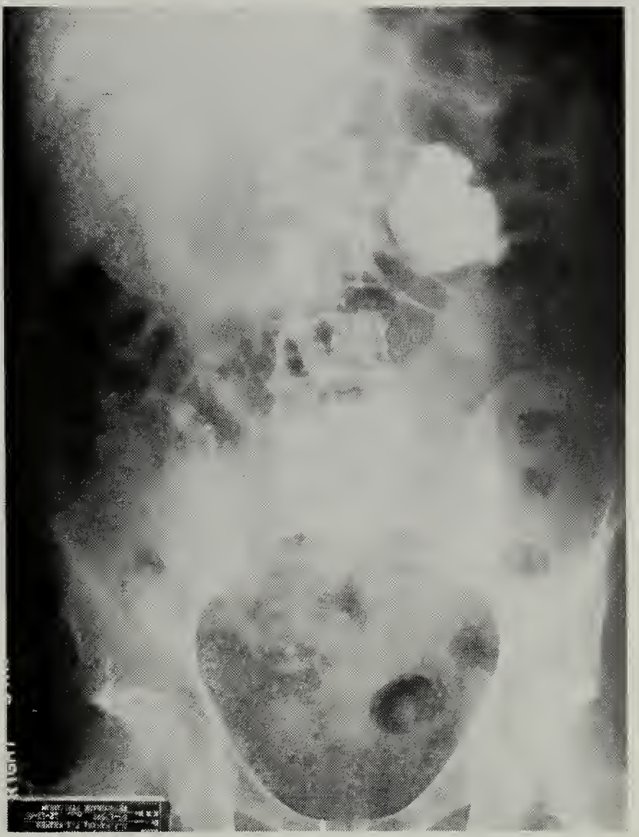

Fig. 4 Three-hour delayed film following retrograde pyelography demonstrating the severe hydronephrosis and ureteropelvic junction obstruction in Case # 2.

normal right kidney and nonfunction on the left. Renal scan (Fig. 3) demonstrated similar findings with what was believed to be a compensatory hypertrophy on the right. Retrograde pyelography demonstrated a hydronephrosis with cortical atrophy (Fig. 4). An aberrant vessel was found to be the obstructing factor at nephrectomy.

Non-visualization on a scan, though certainly significant, can be caused by a variety of lesions which on the basis of a scan alone cannot be diagnosed.

ECTOPIA AND FUSION

Two cases of horseshoe and one of a fused pelvic kidney were noted. Renal scans are usually quite accurate in demonstrating cases of renal fusion or ectopia.

Case # 3. An 8-year-old boy was evaluated by scan because of non-visualization on the intravenous pyelogram of the right kidney (Fig. 5). Attempts at retrograde pyelography were unsuccessful. However, a renal scan (Fig. 6) showed poor visualization of the right kidney, particularly the lower one-half which appears as a shell or cystlike area of tissue consistent with hydronephrosis. Uptake in the left is normal. The pattern of uptake is consistent with a horseshoe kidney, the right segment being hydronephrotic.

Case # 4. Another unusual finding was that of a fused pelvic kidney well defined on a scan (Fig. 7).

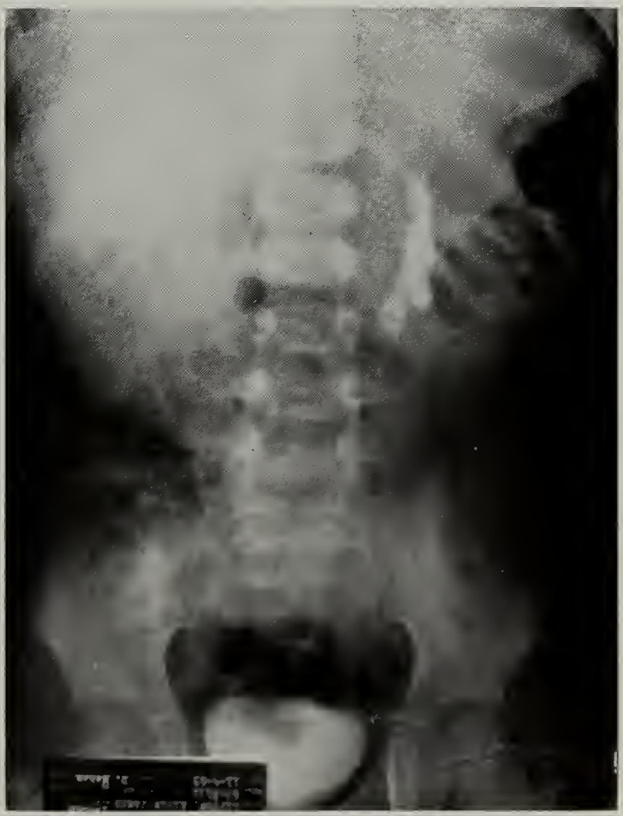

Fig. 5 Horseshoe kidney, nonfunction on intravenous urography. Case # 3.

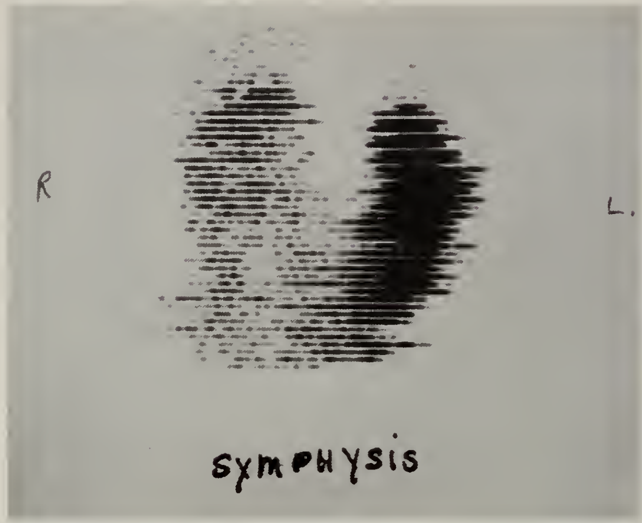

Fig. 6 Horseshoe kidney. Case # 3. Renal scan demonstrates typic configuration with the isthmus. The right side shows decreased function and cystlike area consistent with hydronephrosis.

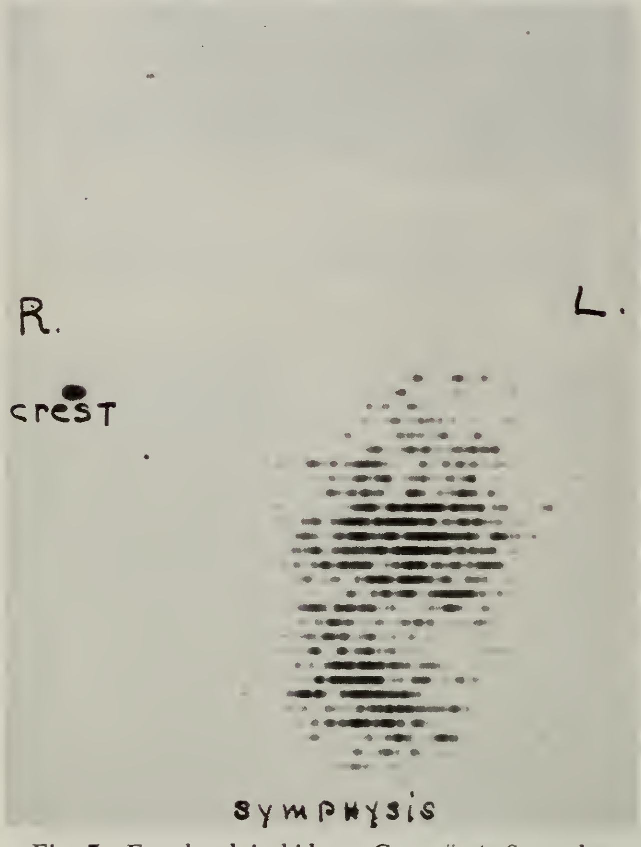

Fig. 7 Fused pelvic kidney. Case # 4. Scan shows the fused homogeneous uptake within the pelvis.

There was a homogeneous blended area of uptake of radioactive material in the pelvis, confirming a clinical impression gained from an intravenous urogram (Fig. 8).

Filling Defects

Filling defects on renal scans were reported nine times. These could be either solitary or multiple, uni- or bilateral, benign or malignant, congenital or acquired lesions.

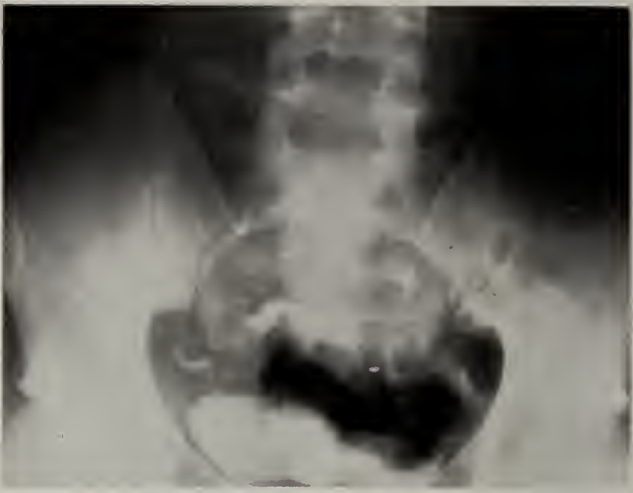

Fig. 8 Pelvic kidney. Case # 4. Intravenous urogram demonstrating renal functioning tissue in the pelvis.

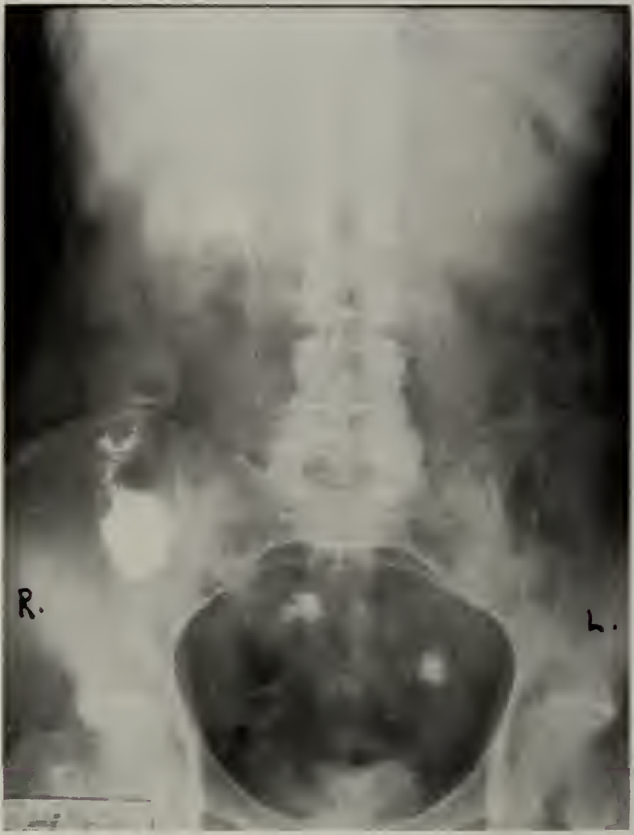

Fig. 9 Renal cyst. Case # 5. Intravenous pyelogram indicating filling defect lower pole, left kidney.

Case # 5. A 65-year-old white female was referred for renal scan because of the findings on intravenous pyelogram suggestive of a filling defect in the left lower pole (Fig. 9). The scan (Fig. 10) confirmed the presence of this filling defect. Surgical exploration proved it to be a solitary benign cyst.

Case # 6. A 69-year-old female, was evaluated because of hematuria and pain in the left kidney area. Radiographic studies and a renal scan (Fig. 11) showed a large filling defect, smooth in contour in the left upper pole. A preoperative diagnosis of

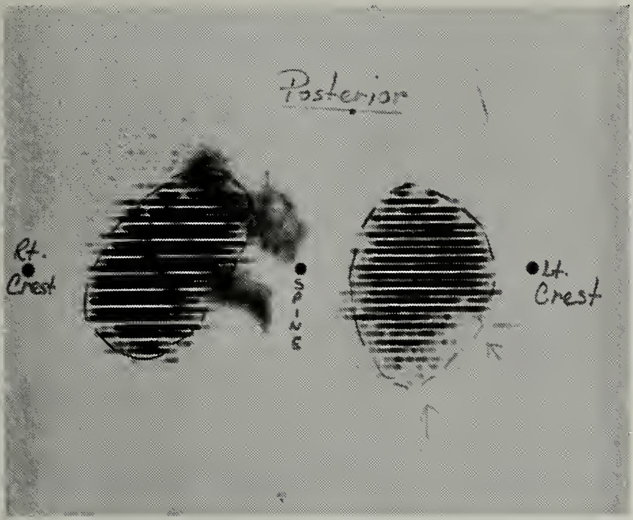

Fig. 10 Renal scan confirming filling defect lower pole, left. Case # 5.

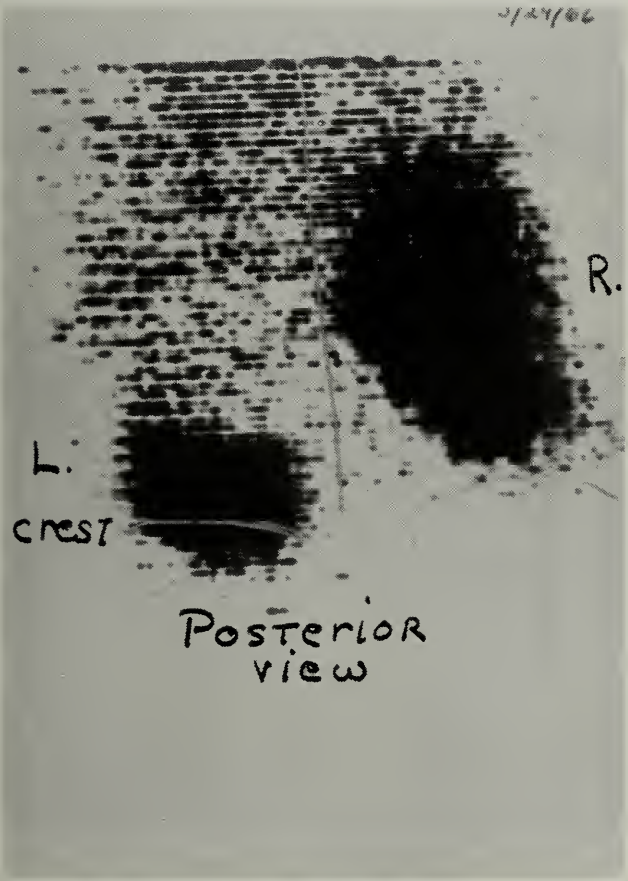

Fig. 11 Hypernephroma and cyst. Case # 6. Renal scan with filling defect in the upper pole left kidney.

left renal cell carcinoma was made. At surgery, a combination of a solitary cyst and hypernephroma was seen and removed.

Case # 7. A 52-year-old patient with known polycystic disease was studied by renal scan (Fig. 12). This shows markedly enlarged renal masses measuring at least 20 cm with multiple areas of decreased uptake. The picture is characteristic of polycystic disease.

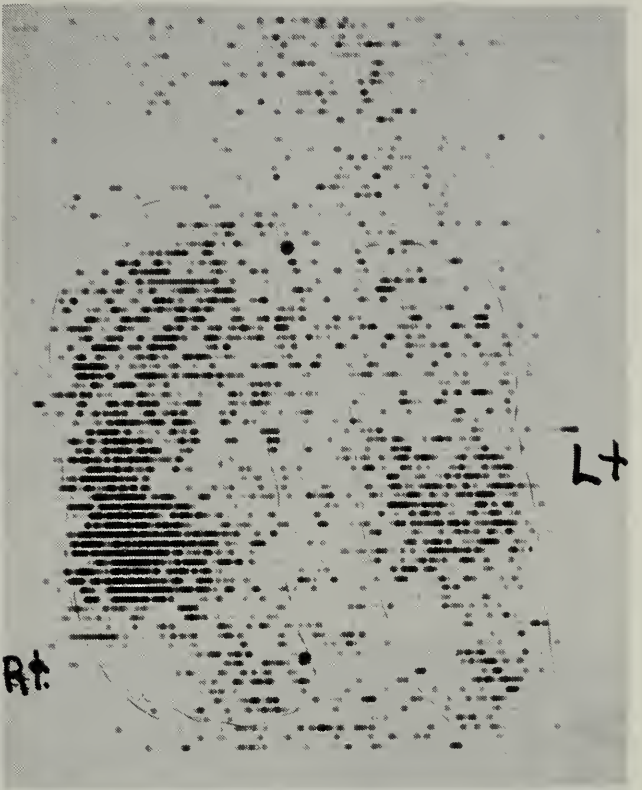

Fig. 12 Polycystic kidneys. Case # 7. Enlarged kidneys, multiple filling defects characteristic of polycystic disease.

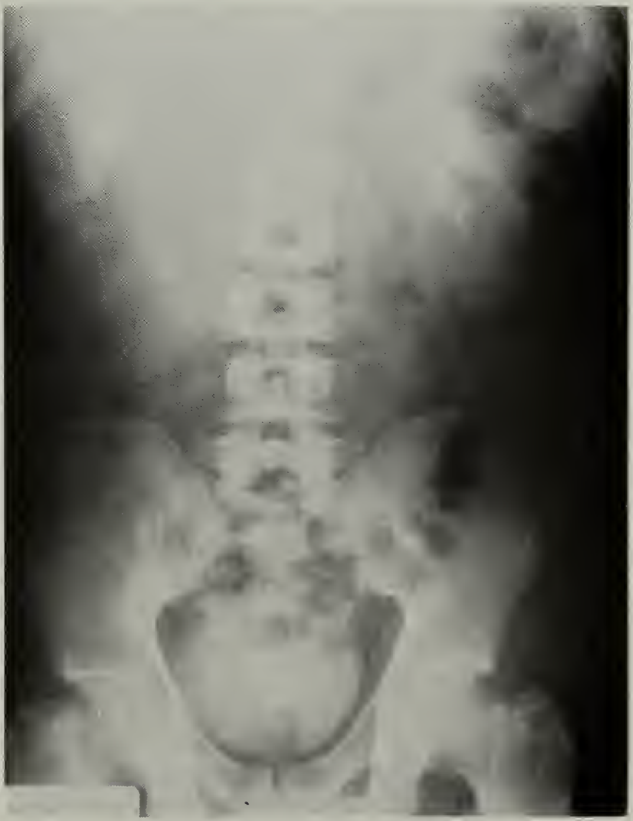

Fig. 13 Unilateral polycystic kidney. Case # 8. Intravenous pyelogram in the patient with multiple filling defects in the right kidney.

Case # 8. More beneficial to us was the evaluation of a patient with what was believed to be unilateral

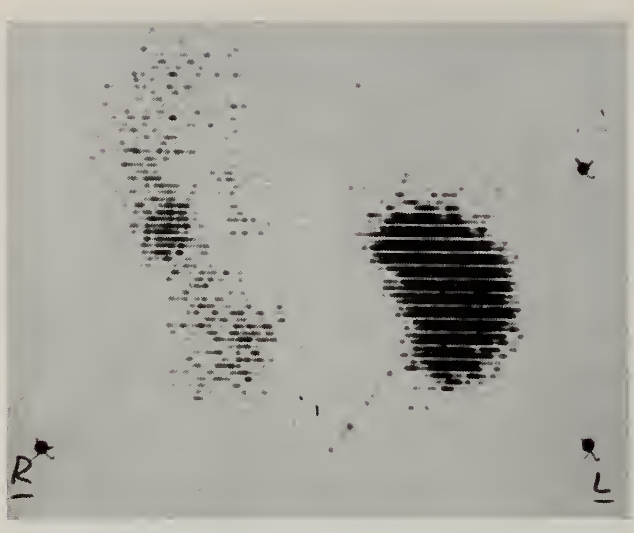

Fig. 14 Unilateral polycystic kidney. Case # 8. Renal scan shows normal contour and uptake on the left. Enlarged right kidney with multiple cystic areas.

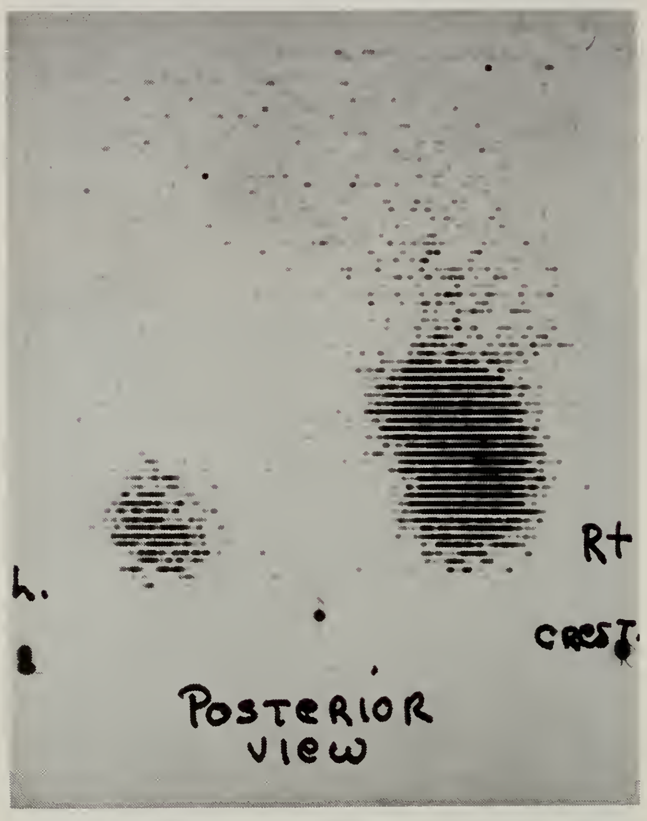

Fig. 15 Segmental infarction. Case # 9. Filling defect upper pole left kidney due to infarction of the upper segment. Uptake low in remaining functioning kidney.

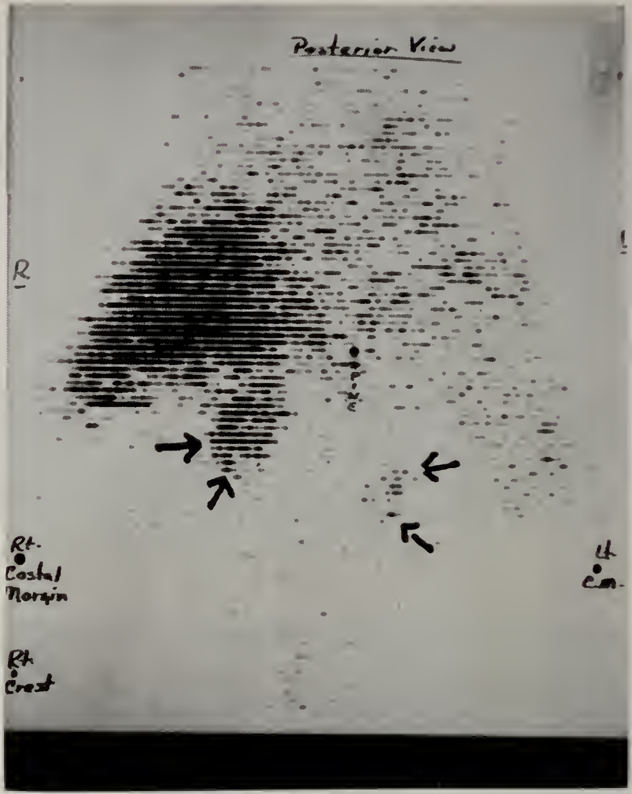

Fig. 16 Uremia. Renal scan in patient whose blood urea nitrogen measured 113 mg %. Small atrophic kidneys are present. Significant uptake shown in both liver and spleen.

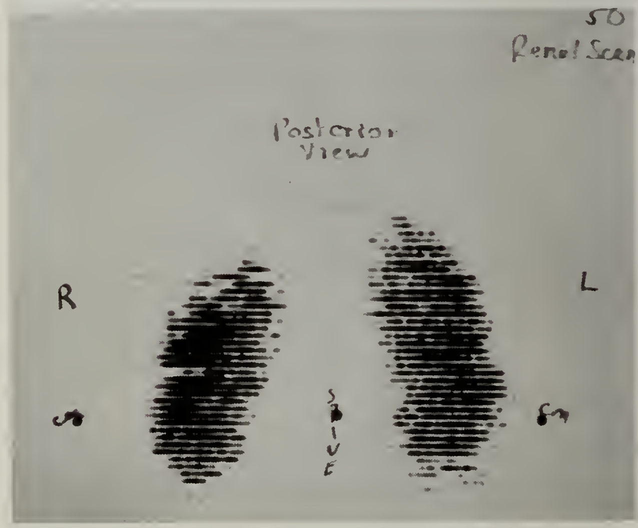

Fig. 17 Hypertension. Case # 10. Decreased size of right kidney compared with the normal left on scan.

polycystic disease. Study of this 36-year-old white male by the usual radiographic means indicated we were dealing with a unilateral lesion (Fig. 13). Nephrectomy was planned to relieve the patient of this enlarging painful mass. Although our differential function studies demonstrated the majority of function present on the left, we were desirous of being more certain the left kidney was not involved. A scan (Fig. 14) was interpreted as entirely normal on the left, measuring 6 x 11 cm with excellent uptake. The right kidney was massively enlarged, 10 x 18 cm. The uptake was patchy and low, indicating multiple cystic areas with significantly reduced functioning tissue. Exploration confirmed the presence of a unilateral polycystic kidney.

Case # 9. A non-functioning upper pole was observed radiographically in a 58-year-old man evaluated for hypertension. Aortography failed to demonstrate the renal vessels on the left. A renal scan (Fig. 15) displayed normal uptake and configuration on the right. The upper half of the left kidney did not visualize and uptake over the entire organ was decreased. Again a tumor or cyst could not be excluded on the basis of the scan alone. However, in view of his clinical history and decreased measurements of activity, a vascular lesion with probable infarction of the upper segment was considered. Surgical exploration was performed and an atrophic infarcted upper segment found. Revascularization of the kidney was not practical and nephrectomy has resulted in a significant improvement in his hypertensive status.

The variety of pathologic processes capable of producing filling defects makes it apparent that no single test can adequately diagnose all of these conditions. Differentiation between cyst and tumor is impossible by scanning. Polycystic kidneys are usually well defined, and in cases of a suspected unilateral condition scans are very beneficial. Segmental defects due to either congenital causes (non-functioning segments) or acquired lesions (segmental infarcts) are particularly well suited to study by scan.

Hypertension

Renal scans have been employed as an adjunct to the diagnosis of renal vascular hypertension. Differences in the size of the kidney and in the rate of uptake of the radioactive material may help in lateralizing the lesion.

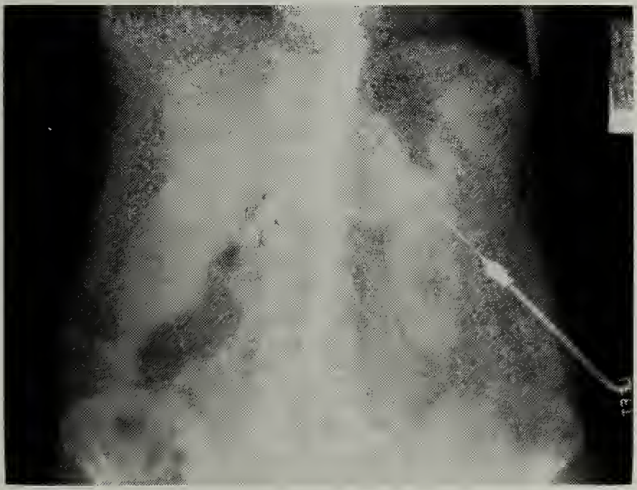

Fig. 18 Aortogram showing fibromuscular hyperplasia right renal artery in Case # 10.

Case # 10. This 65-year-old woman was evaluated for hypertension. The intravenous pyelogram suggested decrease in the size of the right kidney. This was more accurately demonstrated (Fig. 17) on the renal scan, showing a definite decrease in the size of the right kidney as compared to the left. Aortography (Fig. 18) demonstrated the characteristic beaded appearance of the right renal artery indicative of a fibromuscular hyperplasia. Vascular repair of this vessel has resulted in an apparent cure of this lady's hypertension.

Iodine Allergy and Uremia

In patients allergic to iodides renal scans can give useful anatomic information and serve as an excellent screening technique for certain renal diseases. Patients with markedly elevated BUN can likewise be evaluated by scanning procedures. In two instances where the BUN was 90 and 113 mg % satisfactory renal scans were obtained. Fig. 16 is the renal scan obtained in the later case, showing marked bilateral renal cortical atrophy secondary to bladder neck obstruction and longstanding ureteral reflux and renal infection in a young adult. The small areas of uptake are noted, as well as the preponderance of uptake of material within the liver and spleen.

Summary

Our clinical experience with renal scans is reported. Representative cases illustrating their application are presented. Renal scans are atraumatic and require no patient preparation. They are available on an outpatient basis, applicable in cases of iodine allergy, and frequently will demonstrate renal parenchyma when elevation of the blood urea nitrogen precludes intravenous pyelography. No diuretic effect has been seen with the use of radioactive mercury. Applicable to a wide variety of clinical situations, renal scans complement the more routine diagnostic procedures. Refinements in scanning techniques and improvement in equipment should increase their value, particularly as a measurement of renal function.

In the hypertensive patient, scans serve a twofold purpose. First, they may demonstrate an anatomic deformity as a cause of the hypertension or they may serve to give the clinician a very accurate comparative renal measurement. Second, by measuring the rate of uptake of radioactive material in each kidney, a comparative function ratio can be made. Thus far, lateralization of renovascular lesion by scanning has correlated very well with other methods and promises to be more useful as our experience progresses.

The first two papers in this issue of Missouri Medicine, *The Application of the Renal Scan in Urology* and *A Case Against the 'Pill,'* were prepared by members of the Department of Urology, Unit II, St. Louis City Hospital. Two more papers will appear in a later issue. The Editors wish to thank Donald J. Mehan, M.D., for arranging these contributions.

JOHN E. BYRNE, M.D., *St. Louis*

A Case Against the 'Pill'?

A Preliminary Report

A preliminary study that makes no extraordinary claims, but is designed to alert clinicians to the possibilities resulting from the use of the 19-nor steroid preparations and encourage further close observation of this medication when used purely for contraceptive purposes. Doctor Byrne is in the Department of Urology, St. Louis City Hospital, Unit II, St. Louis University.

Few preparations in the United States formulary, with the possible exception of quinine and aspirin, have seen the widespread professional and popular acceptance of the 19-nor steroid preparations as contraceptive agents.

With the preliminary and subsequent reports of Rock, Pincus, Garcia and Rice-Wray,[1-4] the efficacy of the progestational hormones as contraceptive agents has been well established. Through the efforts of many social welfare agencies together with an unheralded attitude of popular concern with a "population explosion," the public acceptance of the "pill" has overcome many of the psychological and theological objections to existing birth control methods.

The initial principal side reaction to the human ingestion of the 19-nor steroid preparations was that of variable thromboembolic disease.[5] More recently a withdrawal infertility response has been questioned.[6]

The more common occurrences of nausea, fluid retention and "break through" bleeding are well recognized. A popular demand for the medication has de-emphasized these responses along with the threat of any thromboembolic risk. However, the product information literature supplied by the manufacturers of all of the 19-nor steroids carries an extensive discussion of these problems.

We have observed a peculiar urologic phenomenon associated with incomplete obstruction of the right ureter which we feel to be worthy of further clinical study.

As early as 1933, Kretchmer et al.[7] described the changes in the renal pelvis and ureter during pregnancy and the puerperium. Two hypotheses to explain these changes have been advanced. Hundley[8] found that the daily oral administration of stilbestrol resulted in an increase in ureteral peristaltic activity, while the progesteronal hormones gradually decreased the amplitude of peristaltic waves until complete atony of the ureter was reached. A second hypothesis is concerned with the fact that the ureteral and pelvic dilatation is secondary to the pressure of the enlarging uterus. Hundley[9] contests this second premise with the feeling that it occurs only after prior hormonal softening of the ureteral wall.

In either instance, we do not have a physiologic or anatomical explanation as to why the phenomenon of the ureteral and pelvic dilatation of pregnancy occurs on the right side in 90% of the cases. Von Wangenen et al.[10] have substantiated the hormonal theory of ureteral dilatation in showing that pregnant Rhesus monkeys display the persistent ureteral and pelvic dilatation following removal of the foetus, if the placenta is allowed to remain. They conclude, then, that the pyeloureteral dilatation of pregnancy is associated with the functioning surface of the placenta.

In our investigation of the right sided etiology of pyeloureteral dilatation, we were drawn to the work of Clark[11] in his description of the "right ovarian vein syndrome." This process by definition is caused by an aberrant ovarian vein causing obstruction of the right ureter at a level of S-1 or approximately 14 cm from the ureterovesical junction. We concur with this description, differing only in the use of the term "aberrant." It is our feeling that this entity may be produced by simple hormone induced engorgement of the right ovarian vein.

It is well established[11] that the synergistic action of estrogen and progesterone cannot be separated. This synergistic action in the vascularization of the vulva, vagina and myometrium will be reflected in an increased venous flow through the ovarian vein. The fact that obstructive phenomena occur more frequently on the right side is primarily one of anatomical consideration. Fig. 1 shows the right ovarian vein following an oblique course over the right ureter to ultimately enter the vena cava. The left ovarian vein is seen following a longitudinal course to enter the left renal vein. Our position in this discussion is to call attention to an artificially induced physiologic response with pathologic implications.

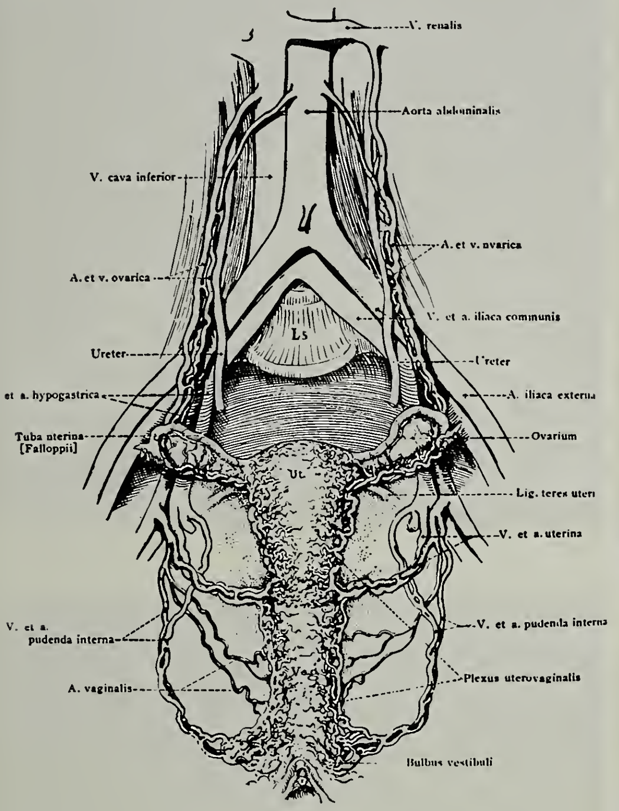
V. renalis
Aorta abdominalis
V. cava inferior
A. et v. ovarica
A. et v. ovarica
V. et a. iliaca communis
Ls
Ureter
Ureter
V. et a. hypogastrica
A. iliaca externa
Tuba uterina [Falloppii]
Ovarium
Ut
Lig. teres uteri
V. et a. uterina
V. et a. pudenda interna
V. et a. pudenda interna
Vag
Plexus uterovaginalis
A. vaginalis
Bulbus vestibuli

Fig. 1

CASE REPORTS

Case # 1. A 28-year-old female was seen 24 hours following Caeserian Section. Urologic consultation was requested following ligation of difficult right sided bleeding at time of surgery. Excretory urogram (Fig. 2) shows minimal calyceal dilatation with prominent right ureteral dilatation above S-1. Right ureteral catheterization revealed no evidence of obstruction of the right ureter. Ureteral dilatation was felt to be due to the engorgement of the right ovarian vein secondary to pregnancy.

Case # 2. (Fig. 3) A 34-year-old female was seen following three episodes of cystitis. Excretory urogram reveals right hydronephrosis and right hydroureter with a point of obstruction at the pelvic brim. Surgical exploration of the right ureter revealed incomplete obstruction secondary to an ovarian venous complex. Intra-abdominal exploration revealed endometriosis with greatest involvement of the right tube and ovary. Right salpingo-oophorectomy with right ureterolysis was performed. A 12 month postoperative excretory urogram is seen in Fig. 4.

Case # 3. A 35-year-old female was seen with her second bout of acute right pyelonephritis. She responded clinically to chemotherapy. Her retrograde pyelogram showing right hydronephrosis with right hydroureter is seen in Fig. 5. The patient gave a history of having taken progestational therapy as a contraceptive measure for the previous 14 months.

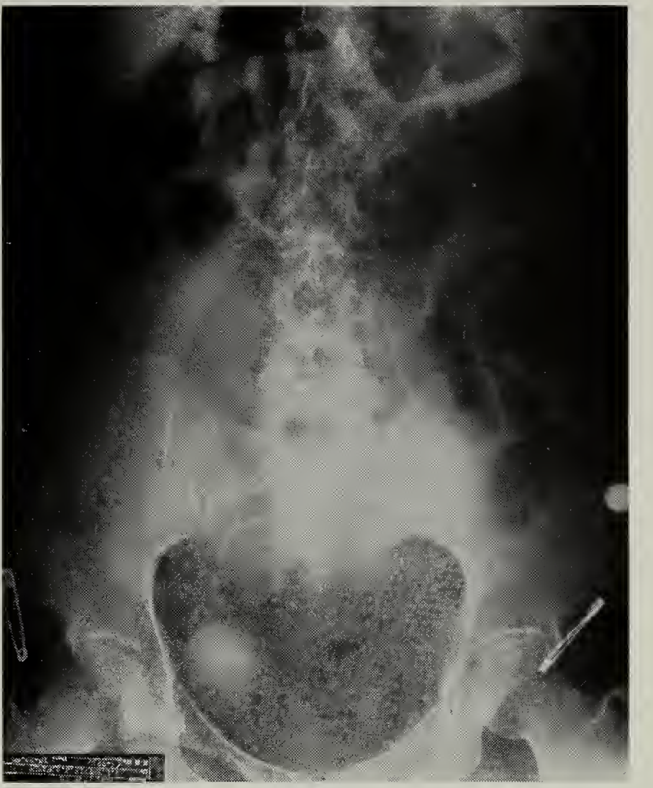

Fig. 2

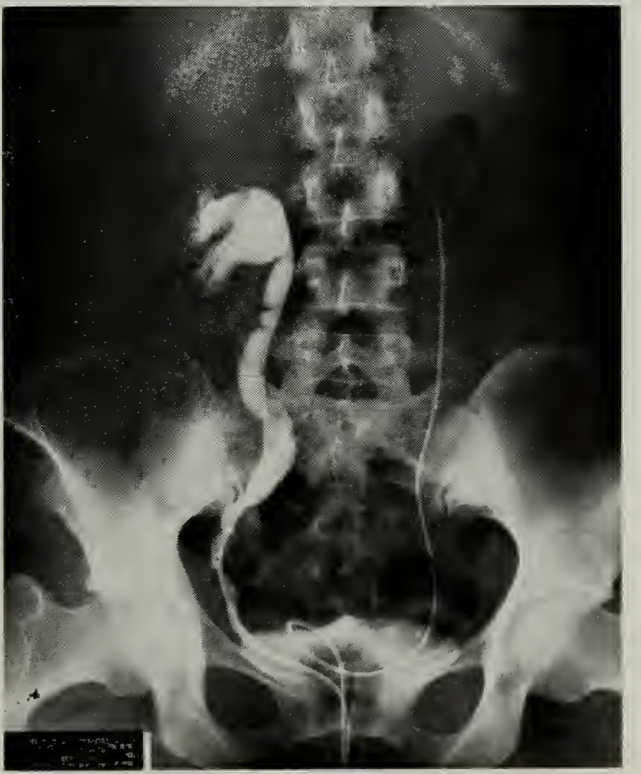

Fig. 3

Surgical exploration of the right ureter revealed a large ovarian vein producing incomplete obstruc-

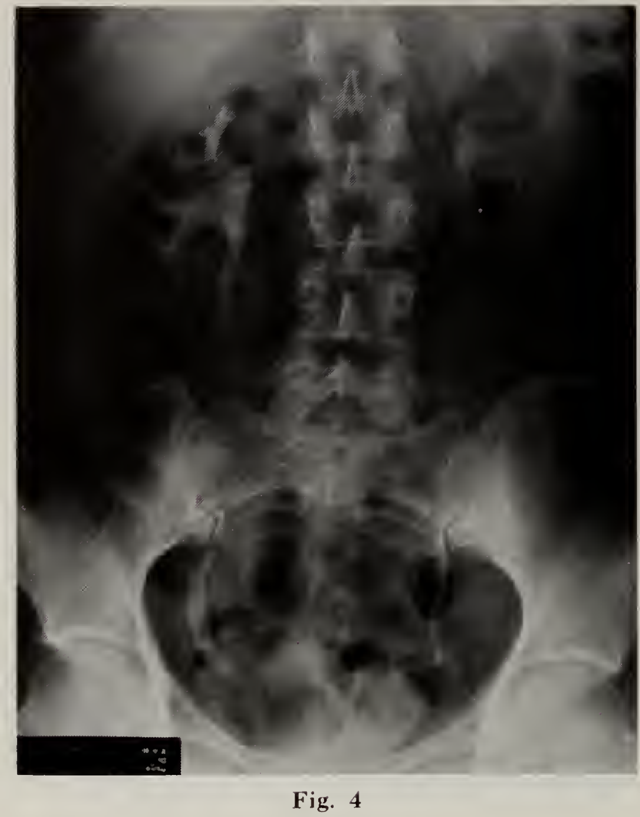

Fig. 4

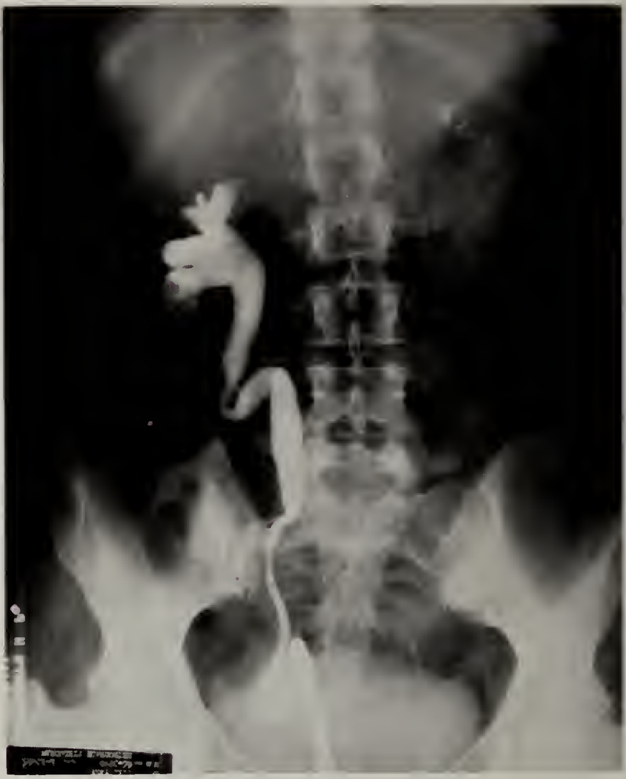

Fig. 5

tion of the right ureter at the level of S-1. Surgical division of the vein with ureterolysis was done.

Case # 4. A 30-year-old female presented a history of three episodes of right pyelonephritis in the past 12 months. She had been on progestational therapy for contraception for 18 months. Excretory urogram shows mild right hydroureter with a persistent filling defect at the level of S-1 (Fig. 6). Repeat pyelogram six weeks later showed the filling defect to persist. She was explored surgically for a possible ureteral neoplasm. At surgery, a large ovarian vein was demonstrated and divided at the point noted pyelographically.

Case # 5. A 23-year-old female was seen following her second episode of acute right pyelonephritis. She had been receiving progestational therapy for six months to correct irregular periods. I.V. pyelogram (Fig. 7) shows right hydroureter with a point of incomplete obstruction in the lower third. Surgical exploration of the right ureter revealed a large ovarian vein with incomplete obstruction of the right ureter. Fig. 8 shows excretory urogram six months postoperatively.

Case # 6. A 44-year-old female presented the complaint of irregular and prolonged menses and a prominent abdominal tumor. A preoperative excretory urogram revealed a large pelvic neoplasm with lateral displacement of the right ureter. No evidence of hydronephrosis or hydroureter was noted (Fig. 9). Surgically a leiomyoma of the uterus measuring 13 cm x 15 cm x 12 cm was removed.

A neoplasm of this size with obvious greatest enlargement to the right pelvis should certainly produce some change in the right ureter, if such dilatation is to be assumed to be on a mechanical basis.

COMMENT

Clinical observations, together with the anatomical and physiologic considerations as to a possible urologic complication of progestational therapy, are presented. No conclusions are drawn from these observations. The implications of right sided obstructive uropathy together with the implications of an association with pyelonephritis are made to alert the clinician to further observations in this problem.

Cases # 1, # 2 and # 6 are not related to the use of contraceptive hormones, but are included to illustrate the probable relationship of endogenous hormone to the ureteral obstruction problem.

Studies are now under way on the effects of the progestational drugs upon a healthy female study group who are using the medication purely for contraceptive purposes. Attempts will be made to correlate pyelographic changes, pyelonephritis, bacilluria and symptom response with urinary studies upon the patient receiving progestational therapy in a variety of forms and dosage.

BIBLIOGRAPHY

1. Rock, J., Pincus, G. and Garcia, C. R.: The Effects of Certain 19-nor Steroids on the Normal Human Menstrual Cycle. Science 124:891-893, 1956.
2. Pincus, G. *et al.*: Fertility Control With Oral Medication. Am. J. of Obst. and Gynec. 75:1333, 1958.
3. Garcia, C. R., Pincus, G. and Rock, J.: Effects of the 19-nor Steroids on Human Ovulation and Menstruation. Ann. of N. Y. Acad. of Science 71:677, 1958.

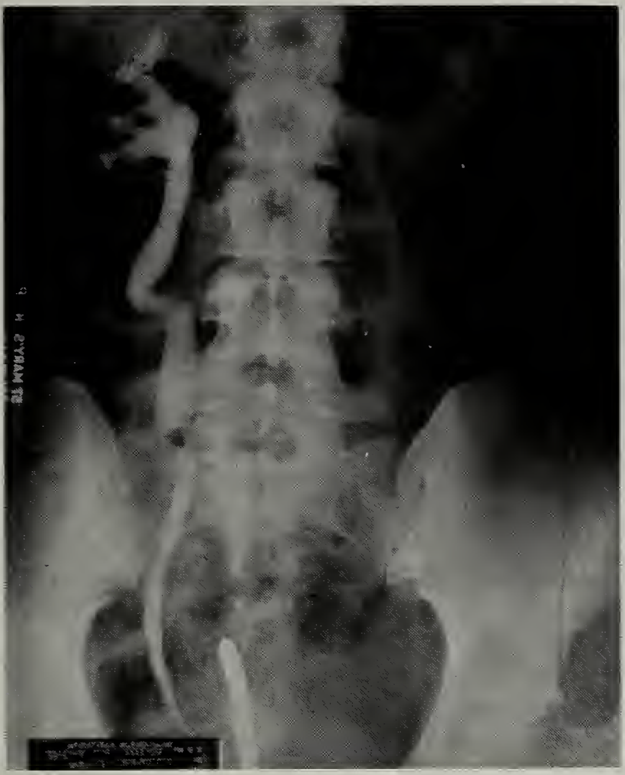

Fig. 6

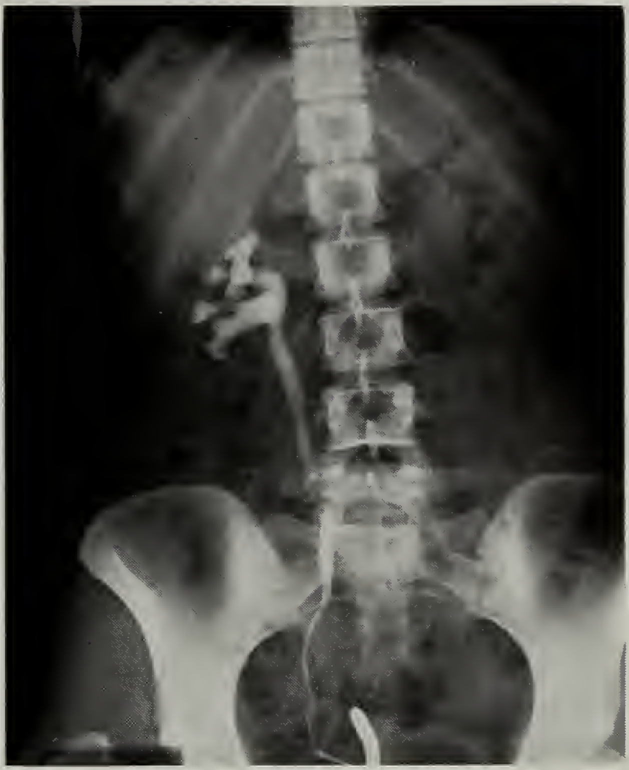

Fig. 7

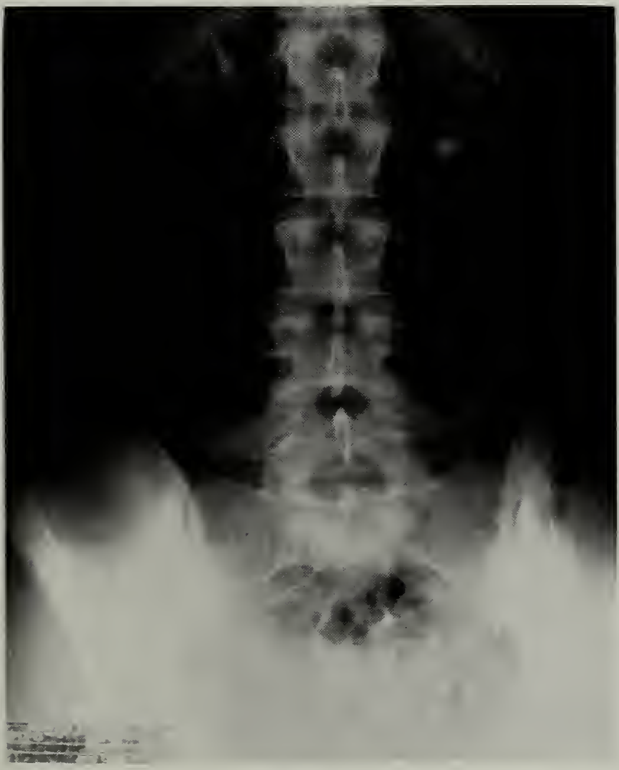

Fig. 8

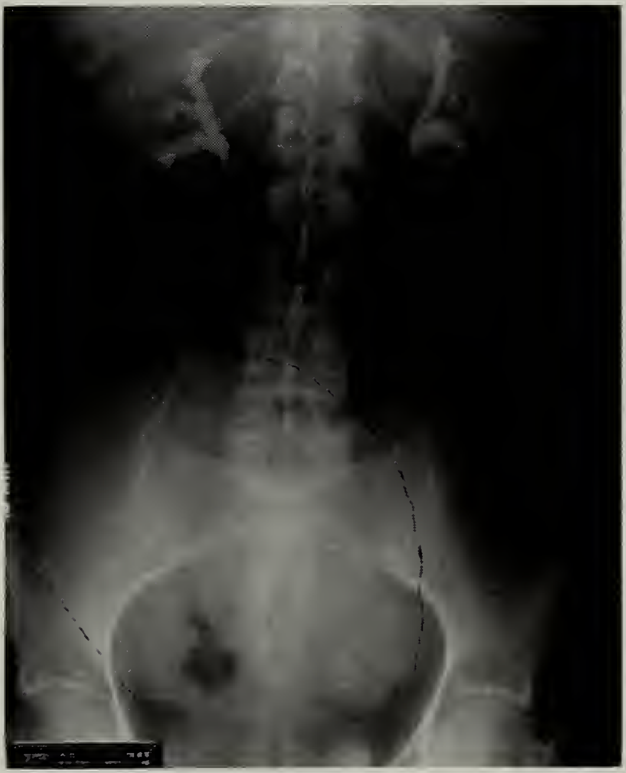

Fig. 9

4. Rice-Wray, E.: Field Study With Enovid as a Contraceptive Agent. Proc. Sympesium on 19-nor Progestational Steroids. Chicago, C. D. Searle & Co., 1957.

5. FDA Report. JAMA 185:776 (Sept. 7), 1963.

6. Whitelaw, M. J., Nola, V. F. and Kalman, C. F.: Irregular Menses, Amenorrhea and Infertility Following Synthetic Progestational Agents. JAMA 195:780-782 (Feb. 28), 1966.

7. Kretchmer, H. L., Heaney, N. S. and Ockuly, E. A.: Dilatation of the Kidney, Pelvis and Ureter During Pregnancy and the Puerperium. A Pyelographic Study in Normal Women. JAMA 101:2023-2028, 1963.

8. Hundley, J. M., Jr., Diehr, W. K. and Diggs, E. S.: Hormonal Influences on the Ureter. Am. J. of Obst. & Gynec. 44:858-872, 1942.

9. Hundley, J. M., Jr. *et al.*: Some Physiologic and Pathologic Observations on the Urinary Tract During Pregnancy. Surg. Gynec. & Obst. 66:360-379, 1938.

10. Von Wangenen, T. and Jenkins, R. H.: Pyelcureteral Dilatation of Pregnancy Following Death of the Foetus. Am. J. Obst. & Gynec. 56:1146-1150, 1948.

11. Clark, J. C.: The Right Ovarian Vein Syndrome. Clinical Urology, Emmett. Philadelphia: W. B. Saunders & Co., 1964.

12. Frieden, E. H. and Hinshaw, F. L.: Biochemistry of Relaxin. Recent Progress in Hormone Research. New York Academic Press, Inc., 1933. Vol. VIII, Chapter 11.

JOHN F. LINDEMAN, M.D., ***St. Louis***

Recent Concepts in the Pathophysiology and Management of Shock

There is no universal agreement on the definition of shock. Currently the most popular definition is that shock is the inadequate perfusion of capillary beds. This concept is useful for purposes of discussion, and will be described.

The basic physiology of shock according to those who hold this definition is as follows:

The initiating factor, whether it be hemorrhage, endotoxin or myocardial failure, incites adrenocortical and adrenomedullary activity. There is an outpouring of corticosteroids and epinephrine. In addition there is an increased release of norepinephrine by sympathetic nerve endings. All affect the alpha-receptors of effector organs, the most important being precapillary smooth muscle sphincters. The effect of this stimulation on the splanchnic circulation, the skin and the kidney is an intense vasoconstriction of the precapillary arteriolar and postcapillary venular sphincters. Several effects follow from this. First, there is an increase in total peripheral resistance with maintenance of blood flow at maximal possible rates to coronary and cerebral circulation since there are no alpha receptors in these organs. Second, there is decreased blood flow to those beds which are constricted. They appear pale and bloodless. In addition, there are A-V anastomoses in these beds, and some of the blood delivered to these sites will be shunted around the capillary beds. Finally, there will be mobilization of blood from constricted venous reservoirs. The most important event however occurs in the capillary bed itself. Subjected to decreased blood flow as a result of arteriolar constriction, those tissues become hypoxic and begin energy production by anerobic glycolysis. A local lactic acidosis is produced and is augemented by failure of the circulation to carry these acid products away. The increasing hydrogen ion concentration decreases the sensitivity of precapillary sphincters to epinephrine and norepinephrine, with a subsequent fall in blood pressure and an increase in secretion of catecholamines. Eventually, however, acidosis becomes so severe that precapillary sphincters become refractory to catecholamines and vasodilatation occurs.

For reasons unknown, there is no relaxation of postcapillary venular sphincters. It is assumed that this is due to greater ability of venous sphincters to tolerate higher hydrogen ion concentration.

The effect of this change on the precapillary sphincter tone is a facilitation of blood flow into capillary beds. There is, however, no facilitation of exit from these beds and congestion ensues.

Subsequently, there is an increase in hydrostatic pressure; and when this exceeds the colloid osmotic pressure of the plasma, there follows an exodus of plasma into interstitial spaces. Plasma losses in excess of 30% to 40% have been estimated in dogs suffering shock from a variety of causes.

As a result of rising hydrostatic pressure and deterioration of endothelial function while bathed in an acid milieu, the capillaries lose their integrity and may slough with whole blood being sequestered in tissues.

Blood volume is further reduced, venous return decreases, cardiac output diminishes and irreversible shock is now at hand. Because of falling cardiac output, coronary flow decreases, the myocardium functions in an ischemic environment, and ultimately function becomes progressively inefficient. This deterioration of function terminates in fibrillation or asystole.

In addition, there are several factors concerning blood flow in the small vessels that contribute to this progression. First, blood viscosity increases as plasma volume decreases. The significance of this is that blood flow at a given head of pressure varies inversely with viscosity. Second, slowing of blood flow and the presence of an acid environment promote rouleaux formation with resultant intravascular clotting.

This then is the sequence of events thought to occur in shock from its onset to termination. Certain facets are worthy of emphasis. First, the body is probably able to supply most of the

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The author reviews recent concepts in the pathophysiology and management of shock. He concludes that, although patients are being successfully treated by current methods, there is no universal agreement concerning a treatment of choice. He calls attention to the increasing volume of literature on this topic and to the clinical studies which are providing valuable new information. Doctor Lindeman is a second year Resident in Medicine at St. John's Mercy Hospital and this paper was first presented at a Hospital seminar.

catecholamines required during shock. Second, the basic problem in shock is inadequate blood flow through capillary beds. Third, acidosis inhibits arteriolar sphincter sensitivity to endogenous and exogenous vasopressors.

The evidence for this work is both experimental and clinical. In addition, with the advent of techniques to measure clinically other parameters of circulatory function in the acutely ill patient, the basic mechanisms leading to irreversible shock are beginning to be understood and therapy is becoming more physiological.

There are increasing numbers of clinical studies appearing in the literature in which cardiac output, venous pressure, peripheral resistance, blood volume and circulation time have been measured before and after treatment.

In almost all states of shock: cardiac output is decreased and total peripheral resistance is increased; central venous pressure may be increased or decreased, as may blood volume in non-hemorrhagic shock; it has been demonstrated that lactic acidosis is a frequent component of shock, regardless of etiology.

In the past, the use of vasopressors in non-hemorrhagic shock has been standard treatment. Their use has been justified by the fact that they are able to increase cardiac output and cerebral artery blood flow.

There is evidence in the literature that coronary perfusion pressure is increased by vasopressors and that this is associated with a moderate increase in blood flow but also a more marked oxygen extraction. It has also been demonstrated that vasopressors cause an increase in hepatic artery blood flow, but a decrease in portal circulation, and therefore, only a slight net increase in hepatic blood flow from previous hypotensive states. As a corollary to decreased portal blood flow, mesenteric artery blood flow is also decreased.

Vasopressors uniformly have been shown to reduce renal vein blood flow. Initially, it also reduces urine output, may then increase it temporarily, but finally will reduce it.

The use of vasopressors has been shown to reduce mortality from shock in myocardial infarction from 60% to 80%. Weil feels that vasopressors do not increase survival in gram negative endotoxic shock, although he continues to use them. All agree that vasopressors are not indicated in shock from dehydration or hemorrhage. It would seem that vasopressors are indicated only in those instances when total peripheral resistance is reduced.

Finally, these factors have led to the formulation of a new concept in the treatment of shock, namely the use of vasodilators. Vasodilators which have been used include dibenzylin, chlorpromazine, and hydrocortisone. These substances cause vasodilation in the splanchnic bed and therefore cause expansion of the vascular space with further drop in blood pressure. Because of this, large volumes of fluid must then be used to fill this increased space. Much work has been done with experimental animals with this approach, and the work suggests that this decreases mortality rate in the experimental model.

In addition, chlorpromazine has been used in some 151 patients suffering from gastrointestinal hemorrhage with shock. Concurrently, they are transfused with whole blood. The mortality rate in these patients was 27% compared to 43% in a group not treated with chlorpromazine. The chlorpromazine-treated group averaged 1250 cc urine output in the first 24 hours, whereas the control group averaged only 175 cc urine outflow per 24 hours.

The vasodilators are classified as alpha-adrenergic blockers. The alpha-receptors are located in the precapillary sphincters of the splanchnic and skin beds. There are no alpha-receptors in the coronary or cerebral circulations. It should be noted here that glucocorticoids are vasodilators only in pharmacologic doses. Presumably, this is the mechanism of their action in endotoxic shock.

In shock due to myocardial failure, there is decreased cardiac output, increased peripheral resistance and there may be an increase in venous pressure. MacLean has done studies in a small group of patients and found that isoproterenol was the most effective drug. This is a beta-adrenergic stimulator. As such, it causes peripheral vasodilation and has a direct inotropic effect on the heart, that is, it enhances the force of myocardial contraction. He found that isoproterenol enhances cardiac output by two to five times in various patients, decreases peripheral resistance and increases urine output.

In the later phases of shock, as noted previously, there is a tendency to intravascular clotting. Heparin has been used experimentally to try to prevent this and has been unsuccessful. There is however evidence accumulating that low molecular weight Dextran M.W. 40,000, does have some efficacy in this sphere. There is some controversy as to whether or not high molecular weight Dextran is of equal efficacy. The mechanism of action of Dextran is that it maintains polarity at the cell membrane and therefore allows cells to repel each other thereby preventing the formation of a nidus from which extensive clotting may occur. It has been shown to increase cardiac output and decrease total peripheral resistance by preventing obstruction in small vessels.

Although it is impractical at the present time to measure cardiac output, total peripheral resistance (TPR), and blood volume, it should be emphasized that measurement of central venous pressure is both practical and important.

Central venous pressure is determined by the interplay of several factors: blood volume, peripheral resistance and cardiac output. It varies directly with blood volume when cardiac output and TPR are stable, and varies inversely to cardiac output when TPR and blood volume are constant. When these variables are appreciated, then central venous pressure may serve as an index of circulating volume relative to cardiac output. For example, if central venous pressure is low, one can assume that the volume of venous return is within the ability of the heart, acting as a pump, to handle that volume at that moment. The converse can also be stated. If central venous pressure is rising, then the returning volume is encroaching on the ability of the heart to handle that volume at that moment. Therefore, it would seem that realization of these pressure relationships can be utilized as a guide to volume therapy. In the event that there is a rising central venous pressure without a concomitant rise in blood pressure and cardiac output, this is considered as indication of cardiac failure and digitalis is indicated.

The basic plan of therapy, then according to recent concepts, is as follows:

1. Diagnosis of shock.
2. Classification of shock.
3. Insertion of central venous catheter for administration of fluids to the monitor central venous pressure.
4. Replacement of volume as indicated.
   a. Blood
   b. Plasma
   c. Electrolyte solutions
   d. Dextran
5. Determination of CBC, electrolytes, BUN or creatinine, blood cultures, etc.
6. If endotoxic shock is suspected, the method of Weil is:
   a. Chloramphenicol, 4 gm/day
   b. Tetracycline, 2 gm/day
   c. Streptomycin, 2 gm/day
   (NOTE: *Dose of streptomycin and tetracycline will have to be modified according to urine output.)*
   d. Hydrocortisone, 100 mgm q 2 hr.
   e. Metaraminol or levarterenol in supportive doses.
   (NOTE: *Weil has recently expressed doubt as to the utility of vasopressors. He feels that their primary function is to augment cardiac output and that their effect on peripheral resistance is counteracted by steroids.*)
7. If cardiogenic shock is indicated:
   a. Digitalize rapidly
   b. Isoproterenol, 1.0 mgm in 500 cc normal saline regulated to keep heart rate below 120/min.
   (NOTE: *The use of vasopressors remains well founded in cardiogenic shock. Clinical studies with isoproterenol are scanty.)*
8. If hemorrhagic shock is suspected:
   a. Stop bleeding
   b. Replace blood loss
   c. Some recommend the use of vasodilators initially—Thorazine 12½ to 25 mg I.V. titrated as needed, or hydrocortisone.
9. Replace base deficit as needed.
10. Digitalis as necessary.

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'Desensitization' in Quinidine Hypersensitivity

Case Reports

Toxic reactions to quinidine are common. The usual symptoms observed are those of cinchonism consisting of tinnitus, headache, nausea, diarrhea and disturbed vision. Occasionally there is abdominal pain, excitement, confusion, hypotension, ventricular arrhythmias and respiratory arrest. Furthermore, the reactions are unpredictable in that they are not always dose-related, each patient manifesting his own toxic threshold.[1] Sokolow[2, 3] has emphasized that serious toxicity seldom occurs when the plasma quinidine concentration is less than 6 mg/L. However, tolerance is quite variable and the catastrophe of sudden death from respiratory arrest or ventricular arrhythmia must be guarded against even after cessation of drug administration.[4-8] The effect of quinidine on muscle is generally not known or appreciated, yet a definite curare-like action may occur resulting in impairment and even cessation of respiration.[9, 10] Patients are usually unaware (or do not complain) of respiratory difficulty until it is already seriously impaired, at which time immediate institution of artificial respiration and administration of appropriate drugs may be life-saving. We have observed that patients experiencing this serious muscle effect will admit to feeling weak and experiencing the sensation of being unable to take a deep breath prior to actual respiratory arrest.

Serious hypersensitivity reactions to quinidine may occur from a single dosage of the drug. These include skin rash, fever, thrombocytopenia, hemolytic anemia and anaphylactic shock.[11, 17] Such toxic manifestations are generally considered to be a contraindication to further use of the drug. However, quinidine remains unique and is as yet unparalleled in its anti-arrhythmic effects on the heart particularly in the treatment and prevention of the atrial arrhythmias. The introduction of the technique of external electric shock for the treatment of cardiac arrhythmias has only slightly lessened the role of quinidine in the therapy of atrial fibrillation since it is necessary that it be administered in order to prevent a recurrence of the abnormal rhythm after successful electrical conversion.

We have recently encountered two patients who demonstrated marked hypersensitivity to quinidine with chills, fever and skin rash and in whom it was subsequently possible to administer a therapeutically effective dosage of the drug after carrying out a program of desensitization over a six to eight week period.

Reactions to quinidine are common, yet there is no substitute for this preparation and its use is still very much a part of modern medical therapy. Occasionally, such reactions may be severe enough to endanger the patient. Such "hypersensitivity" generally represents a contraindication to continued use of the drug. The authors report on two patients, manifesting hypersensitivity to quinidine, who were able to take the drug with no ill effects following a period of desensitization. The process consisted simply of administering graduated daily doses* over a period of several weeks. Doctor Martt is a Professor in the Department of Internal Medicine, University of Missouri School of Medicine. Doctor Stallard is in the private practice of medicine.

CASE REPORTS

Case # 1. A 40-year-old Chinese housewife entered the hospital for attempted conversion of atrial fibrillation with quinidine. She had rheumatic fever at the age of nine while living in China and had been given quinine as a small child as treatment for malaria. Mitral stenosis was diagnosed at 25 years of age. For four years she had noted increasing dyspnea and fatigability. Atrial fibrillation had appeared nine months prior to admission. Administration of quinidine sulfate in increasing daily doses led to chills, fever and a generalized morbilliform eruption after 72 hours (Fig. 1) which subsided within two days after cessation of the medication. She was discharged to return in one month at which

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* Sustained action quinidine sulfate was supplied by the A. H. Robins Company of Richmond, Virginia.

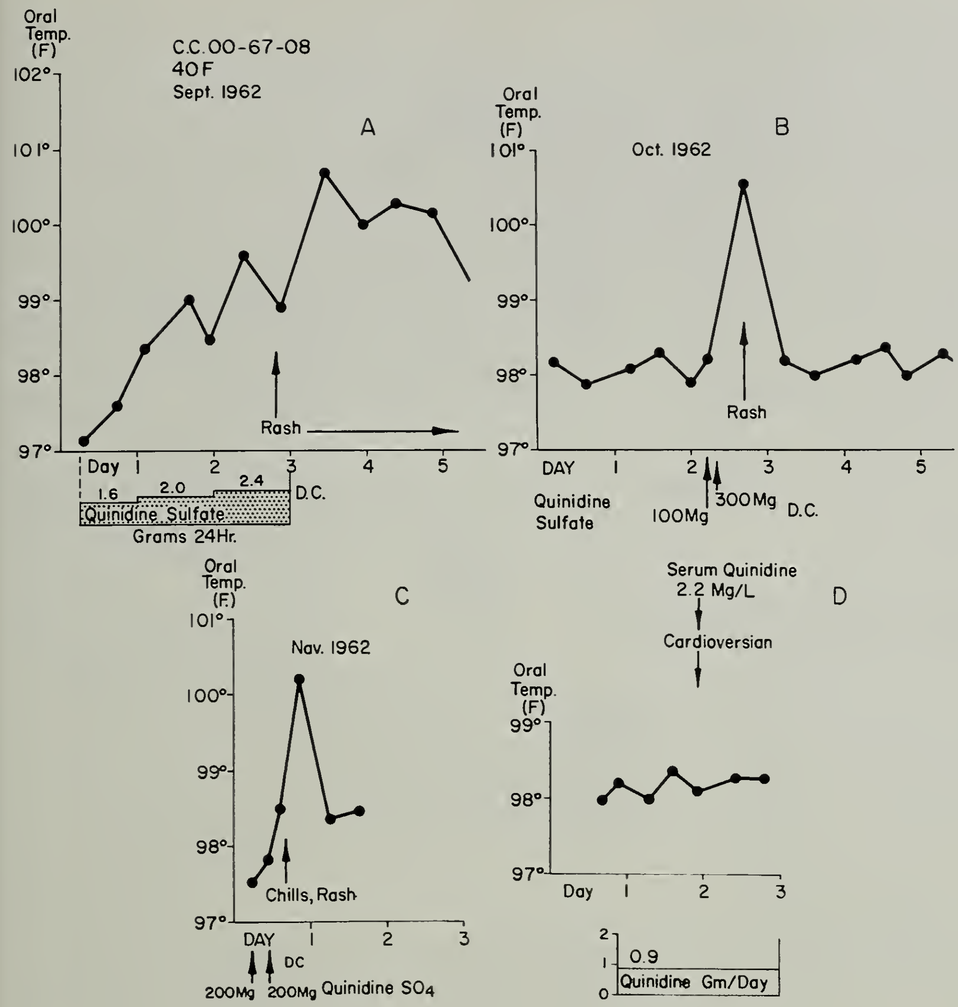

Fig. 1 Temperature response to quinidine in Case # 1. A. Temperature elevation 48 hours after beginning quinidine. Skin rash appeared on third day. B. Second trial of quinidine in same patient with fever and skin rash appearing within hours after 400 mg quinidine orally. C. Third trial one month later with identical adverse response. D. Quinidine administration following oral desensitization—no adverse symptoms observed.

time a similar reaction developed within four hours following the ingestion of 400 mg of quinidine. A third trial one month later produced a similar reaction three hours after taking 200 mg quinidine sulfate (Fig. 1).

She was then given quinidine in small daily increments gradually increasing the dosage over a period of seven weeks. This was surprisingly well tolerated (Fig. 2). Blood concentration of quinidine was maintained at from 2 to 3 mg/L with 300 mg sustained action quinidine sulfate every eight hours. Mitral commissurotomy for mitral stenosis was then performed and 18 weeks following operation the cardiac rhythm reverted to a sinus mechanism following external DC electric shock. She has continued to tolerate daily quinidine administration without symptoms and has maintained a sinus rhythm.

Case # 2. A 56-year-old housewife was admitted to the hospital for surgical therapy for mitral stenosis because of symptoms of increasing dyspnea and fatigability. Preoperative evaluation revealed moderate cardiac enlargement and the murmur of mitral stenosis with a regular cardiac rhythm. Atrial fibrillation developed on the third postoperative day and she was given 1.2 g quinidine sulfate daily. On the 13th postoperative day sinus rhythm was restored with external DC electric shock. Chills and fever

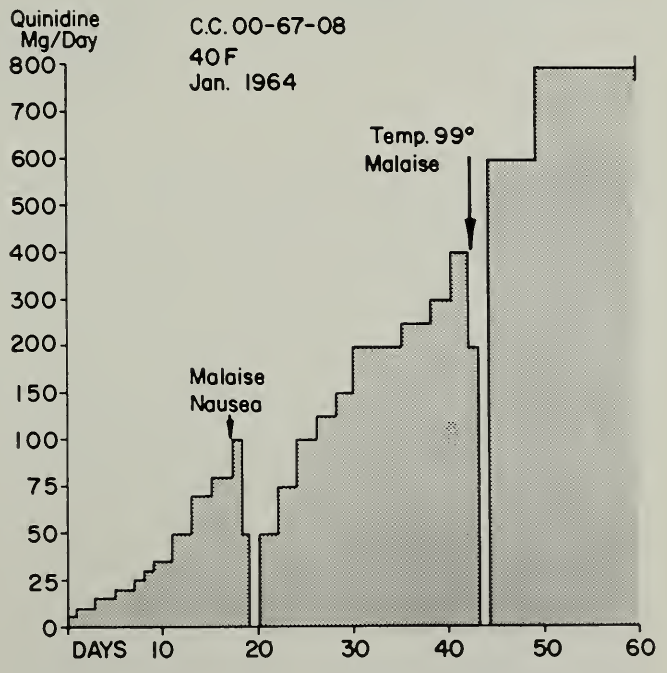

Fig. 2 Desensitization dosage of quinidine as seen in Case # 1. Dosage increased slowly from 5 mg to 800 mg/day and reduced briefly at 20 days and at 43 days because of symptoms.

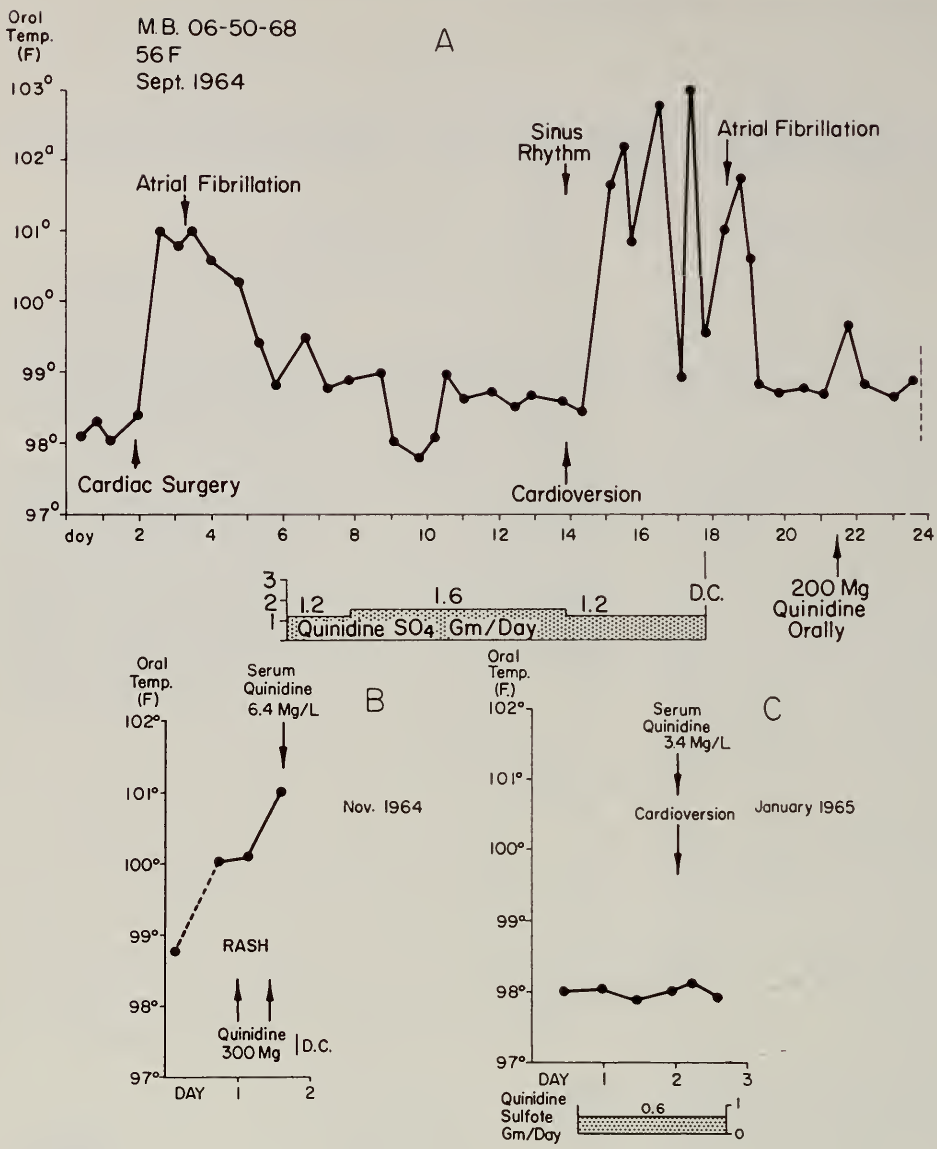

Fig. 3 Temperature records from Case # 2. A. Fever appeared on the eighth day of quinidine administration and subsided promptly after cessation of medication. Single dosage on 21st hospital day resulted in low grade fever. B. Rash and fever developed within 48 hours after quinidine—dotted line indicates unknown temperature prior to entering hospital. C. Temperature course following desensitization to quinidine.

appeared 24 hours later; however, cultures of blood, urine and sputum were sterile. Quinidine was discontinued on the 18th postoperative day and the temperature returned to normal within 48 hours (Fig. 3). One month later, quinidine therapy was resumed by her personal physician in preparation for electrical reversion of the arrhythmia. There was abrupt appearance of nausea, vomiting, diarrhea, chills and fever after a total of 600 mg quinidine sulfate. Forty-eight hours later she was admitted to the hospital where there was noted an erythematous diffuse macular rash associated with fine desquamation of the skin. She was then begun on small daily increments of quinidine over a period of eight weeks. No toxicity was observed during this time (Fig. 4). She was then readmitted to the hospital where she tolerated quinidine in a dosage of 600 mg daily without signs or symptoms of toxicity. Reversion of cardiac rhythm was again obtained with external electric shock. After one year she continues to show no toxicity from quinidine administered daily and maintains a regular sinus rhythm.

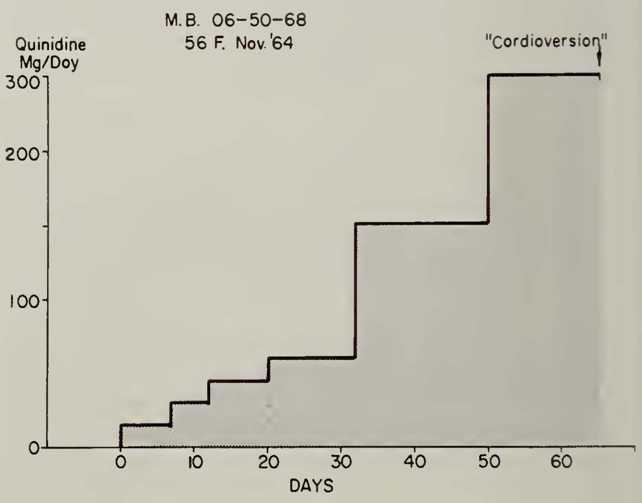

Fig. 4 Case # 2 showing desensitization dosage of quinidine beginning with 10 mg daily and increasing to 300 mg by seven weeks.

DISCUSSION

Fever secondary to quinidine has been known for many years and should be sought for in cases of fever of obscure origin. Such reactions may occur promptly following administration of the drug in individuals previously sensitized but otherwise appears only after several days of therapy. This complication represents hypersensitivity or idiosyncrasy to quinidine and should be considered a contraindication to further administration. However, it would seem that in some instances this complication may be circumvented by the administration of quinidine in small daily dosages of increasing increments over several weeks. Whether such a procedure will prove to be uniformly successful and safe will require further clinical trial and continued close observation.

SUMMARY

Idiosyncrasy to quinidine sulfate occurring in two patients, manifested by fever, chills and dermatitis, was successfully treated by desensitization consisting of a simple empirical program of gradual increasing increments of quinidine daily for several weeks.

BIBLIOGRAPHY

1. Weisman, S. A.: Do's and Don'ts in the Treatment of Auricular Fibrillation With Quinidine. Am. J. Cardiol. 3:333, 1959.
2. Sokolow, M., and Edgar, A. L.: Blood Quinidine Concentrations as a Guide in Treatment of Cardiac Arrhythmia. Circulation 1:576, 1960.
3. Sokolow, M., and Ball, R. E.: Factors Influencing Conversion of Chronic Atrial Fibrillation With Special Reference to Serum Quinidine Concentration. Circulation 14:568, 1956.
4. Weisman, S. A.: Misuse of Quinidine in the Treatment of Auricular Fibrillation. Geriatrics 17:421, 1962.
5. Berman, R., Sadoff, C. M., and Gordon, G. B.: Quinidine Intoxication Occurring During Treatment of Auricular Arrhythmias. Minnesota Med. 36:1052, 1953.
6. Kalmansohn, R. W., and Sampson, J. J.: Studies of Plasma Quinidine Content. Circulation 1:564, 1950.
7. Sokolow, M., and Perloff, D. B.: Clinical Pharmacology and Use of Quinidine in Heart Disease. Prog. Cardiovas. Dis. 3:316, 1961.
8. Slonim, R.: Hazard of Delayed Quinidine Effect. J.A.M.A. 177:791, 1961.
9. Gordon, B., Matton, M., and Levine, S.: The Mechanism of Death From Quinidine and Method of Resuscitation; an Experimental Study. J. Clin. Invest. 1:497, 1925.
10. Finnegan, T. R. L., and Trounce, J. R.: Depression of the Heart by Quinidine and Its Treatment. Brit. Heart J. 16:341, 1954.
11. Bolton, F. G., and Dameshek, W.: Thrombocytopenic Purpura Due to Quinidine. I. Clinical Studies. Blood 11:527, 1956.
12. Rose, O. A., Vogel, A., and Furtz, A. I.: Drug Fever Due to Quinidine. New England J. Med. 248:96, 1953.

WANTED

Scientific papers relating to clinical investigation, basic medical science or clinical medicine. Papers should be planned with 10-minute "in person" presentation in mind. Authors of selected works will be invited to present their papers at the 109th Annual Session of the Missouri State Medical Association . . . April 6-9, 1967 . . . Chase-Park Plaza Hotel . . . St. Louis.

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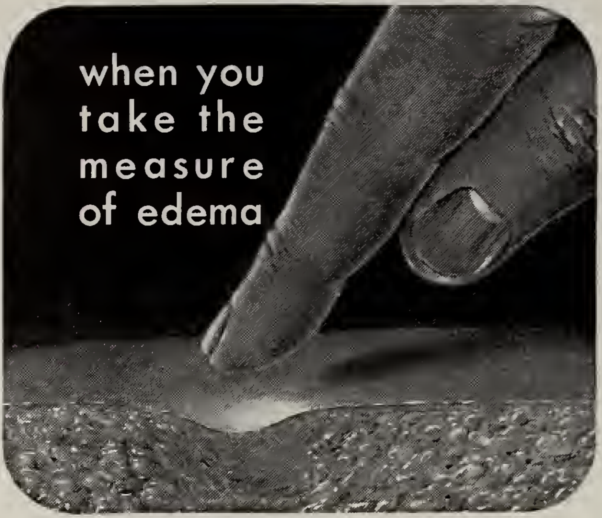

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WARNINGS: Use with caution in the presence of renal disease as azotemia may be precipitated or increased. In patients with advanced hepatic disease, electrolyte imbalance may result in hepatic coma. Dosage of coadministered antihypertensive agents should be reduced by at least 50%. In cases of suspected electrolyte imbalance, serum electrolyte determinations should be performed and imbalance, if any, corrected. Stenosis or ulcer of small intestine have been reported with coated potassium formulas, and surgery has been required and deaths have occurred. Based on surveys of both United States and foreign physicians, incidence of these lesions is low and a causal relationship in man has not been definitely established. Until further experience has been obtained, the use of the drug in pregnant patients should be weighed against possible hazards to the fetus.

CONTRAINDICATIONS: AQUATAG (benzthiazide) is contraindicated in progressive renal disease or dysfunction including increasing oliguria and azotemia. Continued administration of this drug is contraindicated in patients who show no response to its diuretic or antihypertensive properties. Severe hepatic disease is a relative contraindication. (See "Warnings" above.)

PRECAUTIONS AND SIDE EFFECTS: Electrolyte imbalance with hypokalemia (digitalis toxicity may be precipitated), hypochloremic alkalosis and hyponatremia may occur.

Patients with cirrhosis should be observed for impending hepatic coma and hypokalemia. Other reactions may include blood dyscrasias, hyperuricemia and gout, nausea, jaundice, anorexia, vomiting, diarrhea, dizziness, paresthesia, photosensitivity and headache. Hepatic fetor, tremor, confusion and drowsiness are signs of impending pre coma and coma in patients with cirrhosis. Insulin requirements may be altered in diabetes. AQUATAG (benzthiazide) should be used with caution post-operatively as hypokalemia is not uncommon. Potassium supplementation may be advisable pre- and post-operatively. There have been occasional reports of thrombocytopenia, leukopenia, agranulocytosis, aplastic anemia and precipitation of acute pancreatitis or jaundice.

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We do not ask for the repeal of (drug) supervision and control. Rather we ask that the supervision and control be persistent. It seems incongruent that on the one hand, a man may purchase a suicide weapon for 35c over the counter of a drug store, while on the other hand producers of ethical pharmaceuticals must remove their products from the market because of an alleged infraction of the safety rules. Consistency and graciousness are needed here—I trust it will be forthcoming from the FDA.—George J. Lytton, M.D., in *Greater Kansas City Medical Bulletin* (61:59), July 23, 1966.

I need hardly remind physicians that trade names usually are much more easily identified and remembered than generic but have the disadvantage that the same drug appears under a variety of trade names. Usually the physician sticks to the name he remembers and the company he trusts. Are trademarked drugs more reliable? In general yes, because the maker is identifiable. Generic name use tends to encourage the fly-by-night manufacturer who all to often sells drugs for legitimate use through the front door and to the rackets through the back. I would rather pay more for a trade-named amphetamine than a cheaper amphetamine tablet which may largely participate in the goofball market. And then there are drugs, such as digitalis, that I would not dare use without knowing who made them.—Irvine H. Page, M.D., in *Modern Medicine* (34:104), June 6, 1966.

The contributions of pharmacy and medicine have greatly prolonged life, eliminated many diseases, and established in the minds of people the concept that these sciences will yield new materials to overcome unsolved problems of heart disease, cancer, stroke, and many conditions for which there is alleviation bu not yet cure or elimination. I refer to these as a delicate warning to the powers that would inhibit and destroy the great efforts of the pharmaceutical and medical professions. Indeed, I doubt that they could destroy them, but certainly they have inhibited research and the development of new products and they have interfered greatly even with the testing of new products.—Morris Fishbein, M.D., to PMA annual meeting, 1966.

In a democracy, dissent is an act of faith. Like medicine, the test of its value is not its taste, but its effects, not how it makes people feel at the moment, but how it inspires them to act thereafter.—U. S. Senator J. William Fulbright, 1966.

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AMA Attacks Problems Of Emergency Care

The American Medical Association has announced plans for a program designed to bring about what was termed "a vast upgrading" of emergency medical care in the United States.

With hospital emergency room visits up 175% in a ten year period, overall services and facilities "have fallen woefully behind," said Charles C. Edwards, M.D., director of the AMA's division of socio-economic activities.

"The dramatic increase in emergency cases has not been matched with dynamic efforts for a vast upgrading of services," Dr. Edwards declared. "We know that emergency service can be excellent. This has been proven in many communities. But there is no uniformity. In other areas emergency service suffers from both lack of coordination and lack of understanding about what constitutes good care. A soldier wounded in the jungle of Vietnam often gets quicker, more comprehensive emergency care than an accident victim on the open highway or a farmer stricken by a heart attack."

Acting on a recommendation of its Board of Trustees, the AMA has called together a panel of experts to help organize a national conference next spring that will study and recommend means for improving emergency medical care.

One of the principal tasks of the conference, said Dr. Edwards, will be to unify work already underway by such groups as the American College of Surgeons' trauma committee and the AMA's Council on Rural Health, department of health education and department of hospitals and medical facilities.

As envisioned by Dr. Edwards, the conference will delve into four principal areas:

1. Ambulance service and the training of ambulance personnel.
2. The operation, staffing and equipping of hospital emergency facilities.
3. Improved medical education in emergency procedures.
4. Further research into the causes and prevention of medical emergencies, whether the result of accident or disease.

"We are faced not with a single problem but with a complexity of problems," Dr. Edwards said.

"These add up to the fact that nationwide too many emergency patients are dying from want of fast and appropriate action—either because their would-be rescuers are inept or because care facilities are inadequate."

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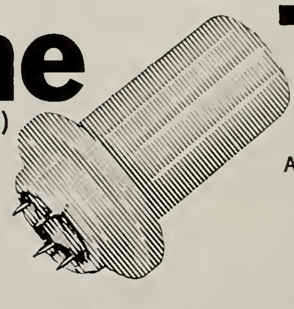

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EDITORIALS

THE DOCTOR'S RESPONSIBILITY UNDER THE NEW DRUG ABUSE LAW

Under the direction of the Liaison Committee (M.D.'s, R.Ph.'s), we have been asked to prepare an article to alert the physician of his responsibilities under the Harris Act which was designed to control illicit traffic in central nervous system stimulants and depressants.

Prescriptions for the controlled drugs may not be marked refill "ad lib." However, they may be marked to refill five times. This is based on the theory that you would give a patient thirty days supply and the prescription then would last him or her a full six months.

Prescriptions for these drugs may not be refilled more than five times, and they automatically expire in six months. Refill authorizations to renew an expired prescription may be given over the telephone to the pharmacist and all refills must be authorized by you.

A record of these drugs prescribed by you must appear on the patient's chart or record. Also, any refills must be noted on that chart or record so as to permit a full record of a total quantity of drugs received by a patient. If your office receives a call requesting a refill, and it is granted, this information must appear on the patient's record. Further, all refill instructions for these drugs must originate with the physician. He may instruct his office assistant to give this information to the pharmacist, but he may not authorize her to give the pharmacist refill permission without the doctor's prior knowledge of this authorization. Since an authorization to refill one of these prescriptions technically constitutes a new prescription, it must emanate from the physician himself.

All physicians who regularly dispense and who charge their patients for drugs either separately or together with charges for other professional services, will have to keep records for purchases and disposition of control drugs.

Furthermore, pharmacists and dispensing physicians who charge for such drugs must have taken an inventory of all controlled drugs on February 1, 1966. These records must be kept for a period of three years, and you must permit inspection.

Further, on May 1, 1966, additional drugs were added to this list that were required to be inventoried and the August 1 inventory of combinations of the stimulant or depressant drugs has been delayed until February 1, 1967, to allow the F.D.A. to prepare its new list of these combinations to be covered under the law.

A record must be kept of all samples obtained from medical service representatives that come under the control of this Act. Further, a record must be kept, by the physician, of his disposition of any samples from his office.

All records that are required by this Act must be kept for a period of three years and readily available for inspection by the F.D.A. Further, you must allow them the privilege of copying any such records as required under the Harris Act. We know this is going to raise a storm of protest, but it is a part of the law, and it can be enforced.

LEROY A. WEIDLE
President of C. F. Knight Drug Company
And Associate Member of the
St. Louis County Medical Society

IT SEEMS TO ME . . .

Waste continues to be a way of life that we have become accustomed to. This I see every fall—when the foliage of the trees tires of the wind and sun and is finally gathered to be disposed of. Then I wonder at the contrast in lands and people. This wide country of ours, in the last hundred years, has lost a third of its top soil mostly because of negligence. A relatively small country such as France, that has rigorously worked its land for a thousand years has richer soil than ever before. In the spring, one can see seeming endless train loads of street sweepings being spread over their farm land. Here, we carefully gather it up to be burned or dumped into the river to join the fertile soil of the plains on its way to the Gulf of Mexico.

What can be done? The answer lies in the simple solution of saving the leaves and all else that can be processed in our nearby vacant land—adding lime, phosphates, nitrogen and trace minerals—to make loam that can replenish this ravished land. Blessed with plenty, we do not see the spectre of want, that continued, awaits future generations because of our senseless folly.

MARK M. MARKS, M.D.
Kansas City

Editorials (Cont'd)

THE HARD FACTS OF LIFE

Now that Medicare has become law, we may as well reconcile ourselves to the fact that an increasing amount of our activities will be under surveillance of the Federal government, with an increasing segment of our incomes paid for that privilege. The impact of all this is dulled from time to time by announcements of planners. For instance, Wallace S. Sayre, Professor of Public Administration at Columbia University, proclaims, "It is a misconception that the power of government is increasingly concentrated in Washington." This could be disproven in fifteen minutes by the dumbest boy in any class beyond kindergarten IF he was interested enough to put a little thought and time to the problem. But it is so easy not to think!

Power is where the money goes, like it or not. The social security tax had been scheduled to level off in 1968 at $222 per year for the employee, with a like amount for the employer. Following the 1965 social security enactment this figure was raised to $372.90. Even while the Medicare program was being enacted it was necessary to revise estimates of its cost. Watch what happens in the future and decide, then, whether or not we have subsidized a mushrooming and powerful Federal bureaucracy which will tax, more and more, those who produce in order to support, more and more, those who do not. The logical end to this comes when there are no longer enough producers to support the increasing number of non-producers. That is the point where democracy, one way or another, will likely cease.

A certain amount of welfare legislation is benevolent and desirable. Certainly, none of us would see a patient go without medical care whether he could afford it or not. But who is going without it? Representative Durward G. Hall has requested that he be notified of anyone in his district who was unable to obtain medical attention and, to our knowledge, no names have ever been submitted. This does not mean that all medical care is the very best, but it never will be. Neither will the same economic opportunities nor the same mental endowment be available to all. These things will not be changed by law.

The social planners who believe they can legislate everything would do well to make a trip to the library. There they will find one of the masterpieces of philosophy, "A Discourse on the Origin of Inequality," by Rousseau. This writing is more than two centuries old but how tight and logical it is, particularly when compared with the syrupy pronouncements of today's socialists.

While the statement of Dr. Irvine Page applied only to medicine I believe it also applies in a much broader sense ". . . what I fear most in a democracy is the creeping encroachment of mediocrity. With few exceptions, the bigger the organization the less the individual responsibility and the greater the loss of individual leadership."

This is the tragic end-result of the path we tread.

WILFRED E. WOOLDRIDGE, M.D.
Greene County Medical Society Bulletin

A special effort has been made to make it convenient for more physicians to attend the 109th MSMA Annual Session by changing meeting dates to run from Thursday to Sunday, instead of the usual Sunday to Wednesday schedule. Another outstanding scientific program is being arranged for you. Exhibits will be on display during two full days, April 7-8. The Session will be held at the Chase-Park Plaza Hotel in St. Louis, April 6-9, 1967. Plan now to be an important part of this meeting.

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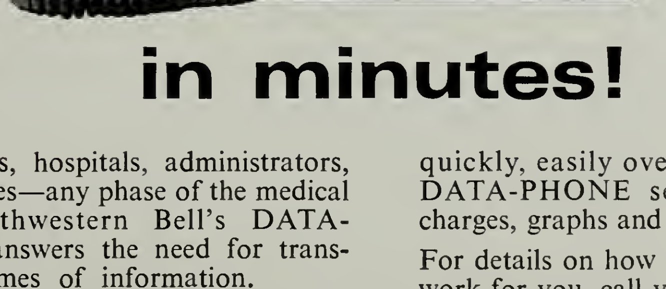

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President's Message

Once again it is time for Americans to go to the polls and to cast ballots for their fellow-citizens who will represent them in the processes of democratic government. Unfortunately, too many Americans decline to accept this responsibility. Others accept it either reluctantly or frivolously, approaching the polling place either steeped in sublime ignorance of candidates and issues or dedicated to blind unthinking "loyalty" to a political label.

Aristotle in his classic, *Politics,* wrote: "If liberty and equality, as is thought by some, are chiefly to be found in democracy, they will be best attained when all persons alike share in the government to the utmost."

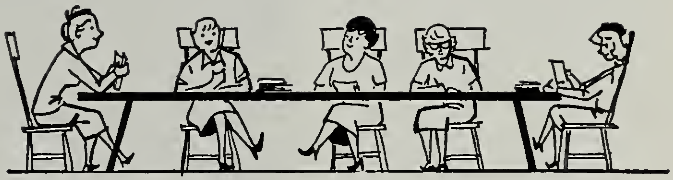
It would appear that the Greek philosopher was fully aware of the fragile foundation on which democracy rests. He recognized that the benefits of democracy are for the most part dependent on a society which remains informed and actively interested in the workings of democracy, a society in which "*all* persons . . . share in the government *to the utmost.*"

Byron M. Stuart, M.D.

As physicians, we should stand ready to accept our individual shares of this democratic responsibility. Perhaps many of us have been remiss in the past, too busy with the science and practice of medicine to realize that major socio-politico-economic forces were pressing in upon us. Perhaps many of us are apathetic now, disgusted with recent developments in the area of government activity. And perhaps . . . just perhaps . . . those recent developments in government activity are at least partially the results of our overall disinterest in politics and government.

I suggest that every physician mark Tuesday, November 8, 1966 as a day on which to go to the polls and to vote for candidates who truly reflect his own political philosophy. I suggest also that every physician mark November 8 as a day on which to re-examine his own political philosophy and his own contribution to political activity. It may be that many of us will find that we are not contributing our "share in the government to the utmost."

Woman's Auxiliary

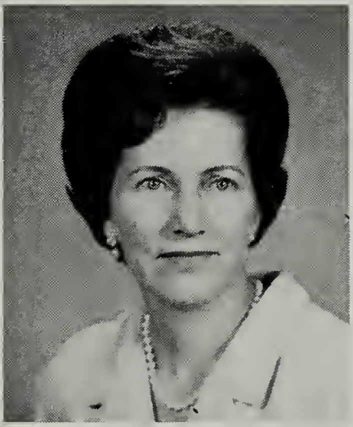


The purpose of the Legislation Committee is to:

1. Keep Auxiliary membership informed on proposed legislation in the field of health.

2. To assist the medical profession in promoting interest among the physicians' families in health legislation.

3. To encourage Auxiliary members and their families to exercise their privileges of American citizenship.



Mrs. Wallace R. Stacey

Women of today represent 51 per cent of the eligible voters, so it is literally true that one should never underestimate the power of a woman!

Someone has said there are three classes of people: the few who make things happen, the many who watch things happen, and the overwhelming majority who have no notion of what happens.

KNOW YOUR AUXILIARY and help our women in Legislation to be among those who "make things happen!"

vignettes of angina pectoris—
no. 1 in a series:

angina and the surgeon

John Hunter—
British surgeon (1728-1793)

angina of anger

"My life is in the hands of any rascal who chooses to annoy and tease me."[1] So said the great British surgeon and anatomist, John Hunter, realizing that he could not control the anger which precipitated frequent and severe attacks of angina pectoris. According to Mettler: "His statement was no exaggeration. On October 16, 1793, he attended a meeting of the St. George's hospital staff, and, while defending the interests of several students, he was contradicted and thoroughly antagonized. The pains of angina commenced, he started toward another room, gained it, and fell dying into the arms of a physician."[2]

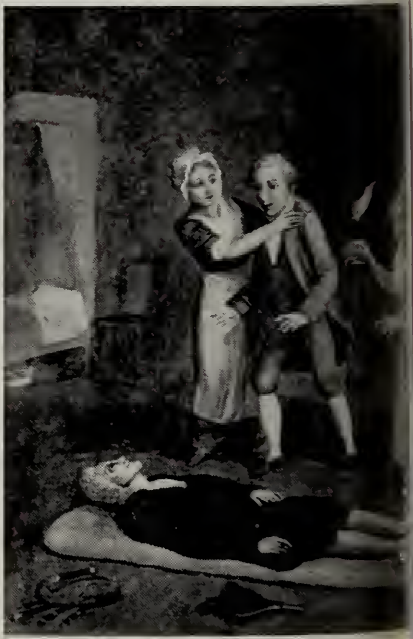
Why Edward Jenner withheld his paper on angina In 1777, at an earlier stage of the condition, Hunter's angina alarmed a favorite pupil, Edward Jenner, who wrote to Dr. Heberden that he feared his teacher was "affected with symptoms of the Angina Pectoris."[3] So concerned was Jenner about his former teacher's emotion-related condition that he deliberately cancelled publication of a paper on angina pectoris, fearing that

Hunter would read it, and hav
"his fears excited by its truly formidable nature."[4]

Severity of angina described Hunter's brother-in-law, Dr. Everard Home, who witnessed
death and performed an autop
gave this account of the later st
of the condition:

"...the pain became excruciati
at the apex of the heart; the th
was so sore as not to allow of an
attempt to swallow anything an
the left arm could not bear to be touched....

"The affections above described
were, in the beginning, readily
brought on by exercise... but th
at last seized him when lying in bed, and in his sleep...."[5]



18th century ancestor of the modern coronary candidate
Surgeon, anatomist, pathologist, physiologist, geologist, and teac
Hunter had a passion for resear
which led him to disregard his practice, his health and even the

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WITH MEPROBAMATE (300 mg.)

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Precautions: Use with caution in patients hypersensitive to sympathomimetic compounds, who have coronary or cardiovascular disease, or are severely hypertensive.
Dextro-amphetamine sulfate: Excessive use by unstable individuals may result in psychological dependence.
Meprobamate: Careful supervision of dose and amounts prescribed is advised, especially for patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g. alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence on the drug. Where excessive dosage has continued for weeks or months, reduce dosage gradually. Sudden withdrawal may precipitate recurrence of preexisting symptoms such as anxiety, anorexia, or insomnia; or withdrawal reactions such as vomiting, ataxia, tremors, muscle twitching and, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, reduce dosage and avoid operation of motor vehicles, machinery or other activity requiring alertness. Effects of excessive alcohol consumption may be increased by meprobamate. Appropriate caution is recommended with patients prone to excessive drinking. In patients prone to both petit and grand mal epilepsy meprobamate may precipitate grand mal attacks. Prescribe cautiously and in small quantities to patients with suicidal tendencies.
Side Effects: Overstimulation of the central nervous system, jitteriness and insomnia or drowsiness.
Dextro-amphetamine sulfate: Insomnia, excitability, and increased motor activity are common and ordinarily mild side effects. Confusion, anxiety, aggressiveness, increased libido, and hallucinations have also been observed, especially in mentally ill patients. Rebound fatigue and depression may follow central stimulation. Other effects may include dry mouth, anorexia, nausea, vomiting, diarrhea, and increased cardiovascular reactivity.
Meprobamate: Drowsiness may occur and can be associated with ataxia; the symptom can usually be controlled by decreasing the dose, or by concomitant administration of central stimulants. Allergic or idiosyncratic reactions: maculapapular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case of fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis (1 case), anaphylaxis, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdosage may produce drowsiness lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

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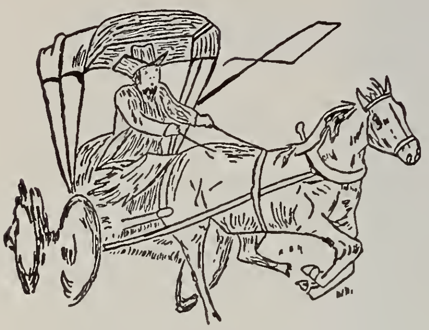
LEO H. POLLOCK, M.D.

Missouri Medicine in Review



FORTY YEARS AGO

In the July 17, 1910 issue of the *Boston Medical and Surgical Journal,* Dr. A. T. Legg of Boston describes a condition that has since come to be known as the Legg-Calvé—Perthes hip or osteochondritis deformans coxae juvenilis. Legg was the first to call attention to this condition. Calvé of France and Perthes of Germany published articles on the same condition at about the same time.

In addition to 58 physicians from Missouri listed in the biennial appearance of *Who's Who in America,* the following new names were introduced: Dr. Evarts A. Graham, St. Louis, originator of cholecystography for visualization of the gallbladder; Dr. Emmett P. North, St. Louis, former president of our Association and president of the State Board of Health during the exposure of the medical diploma mills; Dr. Duff S. Allen, St. Louis, surgeon who worked out a surgical procedure for reconstruction of the esophagus and devised the first method of doing operations inside a living heart under direct vision; Dr. M. B. Clopton, St. Louis, surgeon; Dr. W. T. Coughlin, St. Louis, head of the department of surgery, St. Louis University Medical School; and Dr. Katherine B. Richardson, Kansas City, founder of Mercy Hospital.

Dr. C. R. Woodson, St. Joseph, was host to the Buchanan County Medical Society on Tuesday, August 31, when he gave the annual dinner for the Society which has become an established institution in St. Joseph.—The United States Civil Service Commission announces an open competitive examination for medical interne (psychiatric). The examination is to fill vacancies in St. Elizabeth Hospital, Washington, D. C., at $1,860 a year.

TWENTY-FIVE YEARS AGO

The Southern Medical Association will convene for its 34th annual session in St. Louis, November 10-13, with the St. Louis Medical Society as host. Dr. M. Pinson Neal, Columbia, will be installed as president. Dr. Paul H. Ringer, Asheville, North Carolina, president, will preside at the meeting.

The Station Hospital at Fort Leonard Wood, which has been receiving patients since May 3, 1941, has opened its staff meetings on the first and third Thursdays of each month to all civilian physicians. The Station Hospital is of the familiar army-type frame construction and has a 1,500 bed capacity. There are 105 buildings covering about 53 acres and connected by covered walks.

Dr. Jesse E. Douglas, Webb City, was elected president of the Missouri Tuberculosis Association at the annual meeting in Kansas City, September 27.

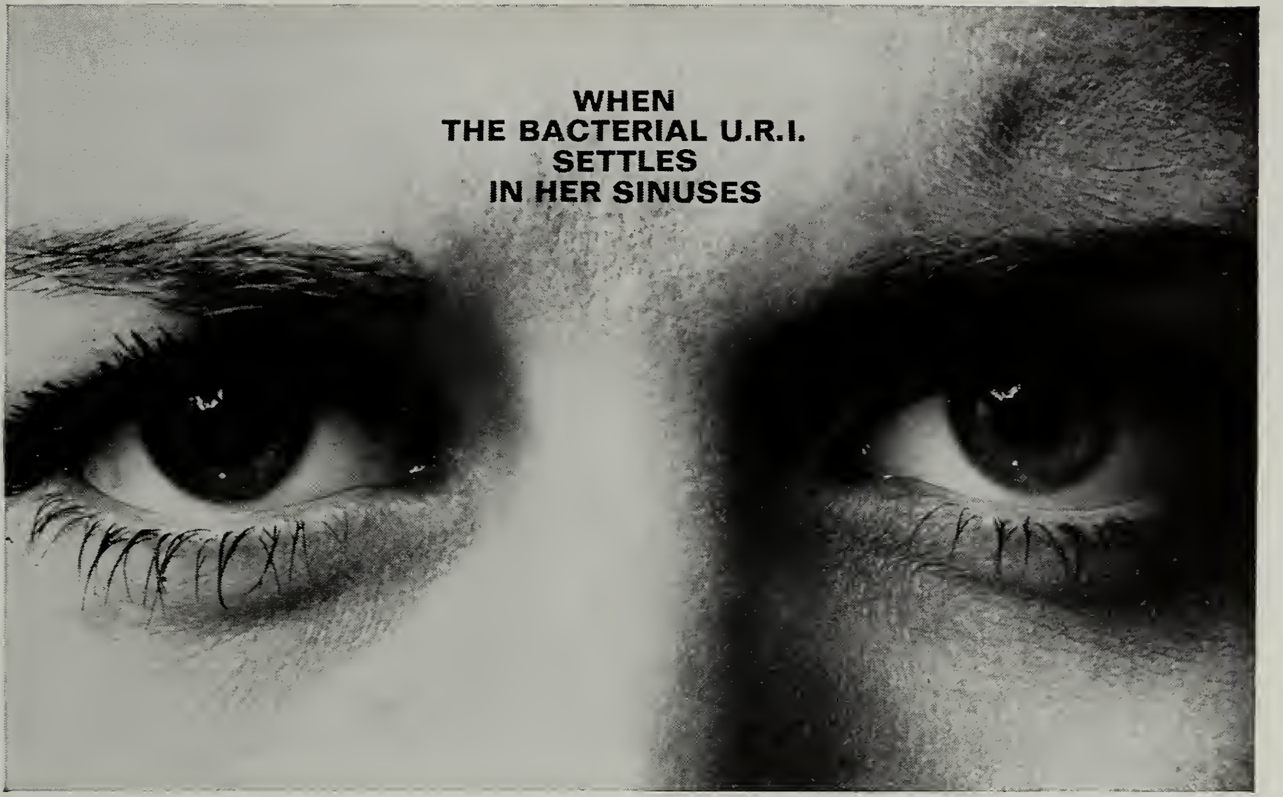
TEN YEARS AGO

The Ford Foundation recently announced grants totaling $21,750,000 to strengthen instruction in the 44 privately supported medical schools now in operation in the United States. The grants are in the amount of $500,000 to each of 43 four year institutions and $250,000 to the two year medical school at Dartmouth College, Hanover, N. H. Among institutions receiving $500,000 are St. Louis University School of Medicine and Washington University School of Medicine, St. Louis.

The Medical School of the University of Missouri has moved into its new home (and it's a beauty), where many medical education activities are in full swing.

The Springfield News carried a picture and story about the life and work of Leroy Simmons, M.D., Sarcoxie, on August 19.—The Grand River Medical Society met at the Strand Hotel in Chillicothe on September 13. Members, Auxiliary members, drug representatives and other guests were among the approximately 50 who attended the dinner. After dinner, an interesting program was presented for the Auxiliary by Dr. George W. Forman, St. Joseph.

The Audrain County Medical Society held a joint dinner meeting with the Callaway and Montgomery County Medical Societies Monday, September 17 in Mexico.—A joint dinner meeting of the Henry, Johnson, Pettis, Saline, Lafayette, Ray and adjacent county Medical Societies and the doctors' wives was held September 19 at Arrow Rock Tavern. The festivities began with an enjoyable social hour followed by one of the tavern's renowned dinners and the scientific program.



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Precautions—Some individuals may experience drowsiness, anorexia, and slight gastric distress. If excessive drowsiness occurs, it may be necessary to increase the interval between doses. Persons on full dosage should not operate any vehicle. Use may result in overgrowth of nonsusceptible organisms. If infections appear during therapy, appropriate measures should be taken. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Infections caused by beta-hemolytic streptococci should be treated for at least 10 full days to help prevent rheumatic fever or acute glomerulonephritis. Use of tetracycline during tooth development (last trimester of pregnancy, neonatal period and early childhood) may cause discoloration of the teeth (yellow-grey-brownish). This effect has been observed in usual short treatment courses.

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County Society News

FIRST DISTRICT

COUNCILOR
JOSEPH L. FISHER, M.D., ST. JOSEPH

Grand River Medical Society

The Grand River Medical Society and Auxiliary opened the new season in fine fashion as thirty-five members and guests met at the Frontier House, near Chillicothe, on September 8, for the first fall meeting.

Following dinner, Dr. David Ginder of the Department of Medicine at the University of Missouri presented the scientific session by discussing the relationship of "Viruses and Tumors." Following his interesting talk, there was a lively question and answer period.

Dr. Windsor Acheson of Princeton, Missouri, has announced that he will move his offices to Trenton, Missouri, about mid-October.

The Medical Society voted to continue having the meetings at the Frontier House on the second Thursday of the month.

Albert D. Cross, M.D., *Secretary*

Buchanan County Medical Society

The first fall meeting of the Buchanan County Medical Society was held September 7 at the St. Joseph State Hospital. Meeting at the State Hospital continued a custom which began in 1908 when the Society held its first fall meeting at Dr. C. R. Woodson's Sanitarium for the treatment of mental disorders. The meetings continued until the sanitarium closed in 1933, and thereafter the Society's first fall meeting has customarily been held at the State Hospital.

Fifty-five physicians attended the meeting. Dr. William Redmond, President, presided. Dr. Liam O'Brien, newly installed as Superintendent of the Hospital, and his staff were hosts for the dinner. Dr. Charles R. Willman, program chairman, introduced Mr. Robert McConnell, director of physician relations for Blue Cross-Blue Shield, who discussed the first 69 days of Medicare.

John L. Mothershead, M.D., *Secretary*

SIXTH DISTRICT

COUNCILOR
ROLLA B. WRAY, M.D., NEVADA

West Central Missouri Medical Society

The West Central Missouri Medical Society resumed its fall series of meetings on Thursday, September 8. The meeting was held at the Country Club, Nevada. The coaches from the surrounding territory were guests of the Society. Total attendance was 71. There were 58 coaches present at the meeting.

The scientific portion of the meeting was conducted by the Physical Medicine Department of the University of Missouri Medical Center headed by Dr. Lester E. Wolcott. He was assisted by Mr. Ralph Stewart, director of intramural athletics at the University of Missouri and a former captain of the M.U. football team; and by Mr. William Flentje, assistant trainer and physical therapist at the University of Missouri. The Program was geared to a discussion of the prevention and the physical therapy of athletic injuries. After the three speakers had made their formal presentations, the doctors adjourned to an adjoining room for the business meeting and the speakers stayed to demonstrate specific procedures and discuss the individual problems with the coaches. All present felt that they had profited a great deal from this fine program.

The business meeting was called to order by Dr. Robert Magee, president. Minutes of the previous meeting were read and approved. Correspondence received by the secretary was presented and discussed. On motion duly made, seconded and approved, the Society voted to participate again in the Ten-County Medical Directory sponsored by the Jackson County Medical Society. The Nominating Committee was appointed by the President and instructed to present its report at the next meeting. It was announced that the next meeting would be in Butler. There being no further business to come before the Society, the meeting was adjourned.

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New Members

Thomas K. Beene, M.D., Knight Building, Lebanon, has become a member of Mid-Mo Medical Society. Dr. Beene is a native of Hughes, Arkansas, received his preliminary education at Arkansas State University and his M.D. degree at the University of Arkansas in 1964. He is in general practice.

B. M. Carnell, M.D., Camdenton Medical Center, Camdenton, has become a member of Mid-Mo Medical Society. Dr. Carnell is a native of Pineville, received his preliminary education at the University of Missouri and his M.D. degree at the University of Missouri in 1965. He is in general practice.

Dennis E. Hite, M.D., Knight Building, Lebanon, has become a member of Mid-Mo Medical Society. Dr. Hite is a native of Olathe, Kansas, received his preliminary education at the University of Missouri and his M.D. degree at the University of Missouri in 1964. He is in general practice.

Henry C. Dugas, M.D., 3737 N. Kingshighway Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Dugas is a native of Augusta, Georgia, received his preliminary education at Johnson C. Smith University and his M.D. degree at Howard University in 1947. He is in general practice.

Joseph A. Reinkemeyer, M.D., 121 Offut, Travis AFB, California, has become a member of St. Louis Medical Society. Dr. Reinkemeyer is a native of Osage County, received his preliminary education at St. Louis University and his M.D. degree at St. Louis University in 1961. He specializes in urology.

Falls B. Hershey, M.D., 18 S. Kingshighway, St. Louis, has become a member of St. Louis Medical Society. Dr. Hershey is a native of Chicago, Illinois, received his preliminary education at the University of Illinois and his M.D. degree at Harvard University in 1943. He specializes in surgery.

Eugene Bortnick, M.D., 751 E. 63rd St., Kansas City, has become a member of the Jackson County Medical Society. Dr. Bortnick is a native of Milwaukee, Wisconsin, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1959. He specializes in otolaryngology.

Melvin R. Troeh, M.D., 10901 Winner Road, Independence, has become a member of Jackson County Medical Society. Dr. Troeh is a native of Grangeville, Idaho, received his preliminary education at the University of Kansas and his M.D. degree at the University of California in Los Angeles in 1960. He specializes in internal medicine.

J. Russell Comer, M.D., 4949 Rockhill Rd., Kansas City, has become a member of Jackson County Medical Society. Dr. Comer is a native of Kansas City, received his preliminary education at Graceland College and the University of Kansas and his M.D. degree at the University of Kansas in 1964. He specializes in radiology.

In Memoriam

Ralph A. Kinsella, Sr., M.D., St. Louis, a graduate of St. Louis University, 1911; member of St. Louis Medical Society; aged 80; died September 5, 1966.

Don Carlos Guffey, M.D., Kansas City, a graduate of the University of Pennsylvania, 1905; member of Jackson County Medical Society; aged 88; died August 11, 1966.

Jesse E. Douglas, M.D., Kansas City, a graduate of the University of Minnesota, 1912; member of Jasper County Medical Society; aged 78; died September 8, 1966.

Oliver F. Reich, M.D., Imperial, a graduate of St. Louis University, 1929; member of Jefferson County Medical Society; aged 63; died September 25, 1966.

From the Medical Schools

ST. LOUIS UNIVERSITY

Recent Advances in Internal Medicine will be presented in two postgraduate conferences for practicing physicians by the Department of Internal Medicine of the St. Louis University School of Medicine November 2 and March 1. The day-long courses, sponsored by Metropolitan College of St. Louis University, are acceptable for six hours of credit each by the American Academy of General Practice.

Dr. Thomas F. Frawley, professor and chairman of the department of internal medicine, who will open the two conferences with a course introduction, also will discuss "Advances in Diagnosis of Hyperthyroidism" as one of the planned lectures on March 1.

Topics of lectures to be given in November will include Diagnosis and Treatment of Hypercalcemia, Vascular Headaches, Differential Diagnosis and Treatment of Arterial Hypertension, Cardiac Resuscitation, Recent Advances in Rheumatoid Arthritis and Chemotherapy in Cancer.

Subject of lectures planned for the March day-long course include The Changing Pattern of Bacterial Endocarditis, Differential Diagnosis of Diseases of the Pancreas, Clinical Application of Immunology, Review of Diagnosis and Therapy of Anemias and Advances in Chronic Diseases of the Chest.

The internal medicine conferences will offer participating physicians an opportunity to discuss problems encountered in daily practice. Each presentation will be followed by an informal discussion period. Course sessions will be held in Cardinal Glennon Hospital, 1401 S. Grand Blvd.

Interested physicians may enroll for the courses by contacting Mr. Eugene J. Hanses, coordinator continuing medical education, Metropolitan College, Saint Louis University, 221 N. Grand Blvd., St. Louis 63103.

UNIVERSITY OF MISSOURI

The seventh annual M.D. Day program will be held on the Columbia campus of the University of Missouri November 4-5. In addition to offering a scientific program for practicing physicians in Missouri and neighboring states, it will be an occasion for reunion of Medical School alumni.

Six professors from the University of Colorado School of Medicine faculty will be featured speakers at the meetings on Friday and on Saturday morning preceding the Missouri-Colorado football game that afternoon.

The Office of Continuing Medical Education is handling arrangements for the meeting. The program is acceptable for eight accredited hours by the American Academy of General Practice.

The Missouri Medical Alumni Association dinner will be held at the Daniel Boone Hotel at 6:30 p.m. Friday, following a social hour which begins at 5:00 p.m.

The MU Medical School class of 1941 will have its 25th year reunion at 9 p.m. Friday at the home of Dr. and Mrs. Norman Asel, 1112 S. Glenwood. Wives are invited.

Graduates of five years ago, the class of 1961, will have a breakfast meeting at the Daniel Boone Hotel at 8:30 a.m. Saturday. The classes of 1942 and 1962 will meet for breakfast at 8 a.m. at Room N-229 in Memorial Union to plan for their reunions next year.

The M.D. Day program is the third in a series of Missouri conferences planned for continuing medical education this year. Future conferences planned at the Columbia campus are on December 7-8, Current Concepts in Arthritis; February 9, Hematology: Utilization in Clinical Diagnosis; March 8-9, Management of Common Fungal Diseases; April 13, Inflammatory Diseases of the Liver; May 10-11, Hypertension.

A workshop in pediatric radiology, limited to five pediatricians and five radiologists, will be held at Kansas City General Hospital, an affiliate of the University of Missouri, April 24-28, in Kansas City, Missouri.

Additional information on all programs may be obtained from the Office of Continuing Education at the Medical Center.

Dr. John C. Neff, resident physician at the University of Missouri Medical Center, is one of two pathology residents in the United States selected this year for $1,000 fellowships given by Warner-

Chilcott Laboratories. He accepted the award at the annual meeting of the American Society of Clinical Pathologists held in Washington, D. C., recently.

Each of the 88 medical schools in the country is eligible to nominate a candidate for the fellowships. The other winner this year is a resident at the University of California at Los Angeles.

Selection of the award winners is based on their past record in the field and a letter from each applicant including a statement about his future plans in pathology.

A native of Akron, Ohio, Dr. Neff received his B.S. degree at St. Joseph's College, Rensselaer, Indiana, and his M.D. degree at St. Louis University where he interned and spent his first year of pathology residency. He is in his fourth and final year of residency at Missouri.

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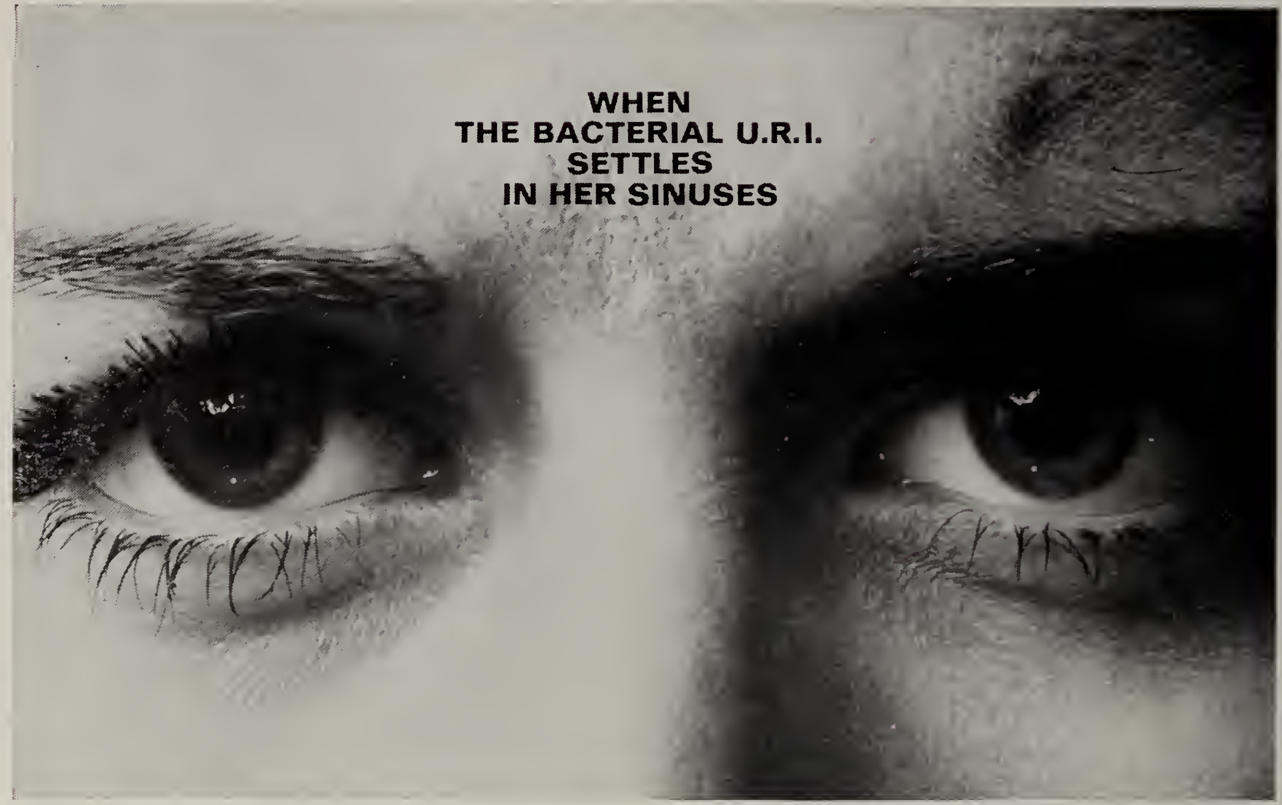

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Effective in controlling complicating tetracycline-sensitive bacterial infection and providing symptomatic relief in allergic diseases of the upper respiratory tract.

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Warning—If renal impairment exists, even usual doses may lead to liver toxicity. Under such conditions, lower than usual doses are indicated and if therapy is prolonged, tetracycline serum level determination may be advisable. Hypersensitive individuals may develop a photodynamic reaction to natural or artificial sunlight during use. Individuals with a history of photosensitivity reactions should avoid direct exposure while under treatment and treatment should be discontinued at first evidence of skin discomfort.

Precautions—Some individuals may experience drowsiness, anorexia, and slight gastric distress. If excessive drowsiness occurs, it may be necessary to increase the interval between doses. Persons on full dosage should not operate any vehicle. Use may result in overgrowth of nonsusceptible organisms. If infections appear during therapy, appropriate measures should be taken. If adverse reaction or idiosyncrasy occurs, discontinue medication and institute appropriate therapy. Infections caused by beta-hemolytic streptococci should be treated for at least 10 full days to help prevent rheumatic fever or acute glomerulonephritis. Use of tetracycline during tooth development (last trimester of pregnancy, neonatal period and early childhood) may cause discoloration of the teeth (yellow-grey-brownish). This effect has been observed in usual short treatment courses.

Average adult dosage: 2 tablets four times daily, given at least one hour before, or two hours after meals.

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Frankly, most antihypertensives are pretty good if you give an adequate dose. I'm looking for one with a simple regimen so that mix-ups in doses and therefore the chance of side effects are minimized.

Regroton®

chlorthalidone 50 mg. reserpine 0.25 mg.

1 tablet daily
brings pressure down

Advantage: Both components of Regroton are long-acting.
Average dosage: One tablet daily with breakfast.
Contraindications: History of mental depression, hypersensitivity, and most cases of severe renal or hepatic diseases.
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Precautions: Reduce dosage of concomitant antihypertensive agents by one-half. Discontinue if the BUN rises or liver dysfunction is aggravated. Electrolyte imbalance and potassium depletion may occur; take particular care in cirrhosis or severe ischemic heart disease, and in patients receiving corticosteroids, ACTH, or digitalis. Salt restriction is not recommended. Use with caution in patients with ulcerative colitis, gallstones, or bronchial asthma.
Side effects: Nausea, vomiting, diarrhea, muscle cramps, headaches and dizziness. Potential side effects include angina pectoris, anxiety, depression, drowsiness, hyperglycemia, hyperuricemia, lassitude, leukopenia, nasal stuffiness, nightmare, purpura, urticaria, and weakness.
For full details, see the complete prescribing information.
Availability: Bottles of 100 and 1000 tablets.

Geigy

medical melange

Notes of interest from Here . . . . and There

Dr. Kenneth E. Knabb of Springfield is the new President-Elect of the Missouri Academy of General Practice, which held its annual convention in Kansas City in November. He will succeed **Dr. H. Stacey Long** of Kansas City as President next year. Dr. Knabb was President of Greene County Medical Society in 1964 and is counselor to the school of religion at Drury College, Springfield. Other newly elected MAGP officers are: Vice-President, **Dr. John M. Haight**, Kansas City; Secretary-Treasurer, **Dr. John T. Crowe**, Cape Girardeau; Directors, **Dr. Raymond G. Elliott**, Kansas City; **Dr. Barney W. Finkel**, St. Louis; and **Dr. Grover S. Patterson**, Carthage. Delegates to the AAGP: **Dr. C. Gordon Stauffacher**, Sedalia, and **Dr. Walter T. Gunn**, St. Louis. Alternates: **Dr. Charles A. Nester**, St. Louis, and **Dr. Edson C. Carrier**, Kansas City.

The Division of Health Mobilization of the U. S. Public Health Service has presented its highest award for outstanding service in disaster medical care to **Carroll P. Hungate**, M.D., Kansas City. Dr. Hungate was honored "for his voluntary services in providing leadership among professional organizations in implementing national emergency health and medical preparedness programs" —Dr. William Stewart, Surgeon General. The award was presented during the Division's annual conference in Kansas City in October.

Congratulations to the 25 Missourians who were among the approximately 1,350 surgeons inducted as new Fellows of the American College of Surgeons during the annual Clinical Congress in San Francisco in October. They are: **Drs. Paul S. Nussbaum** and **Joseph N. Tygett**, Cape Girardeau; **Edward M. Ring** and **Glennon Schaefer**, Clayton; **Ned B. Chase, Jr.**, Joplin; **Abraham Kaplan** and **Thomas H. McGuire**, Kansas City; **Gerald L. Behrens**, Kirkwood; **Moufid Mitri**, Poplar Bluff; **Thomas A. Schneider** and **Earl J. Wipfler, Jr.**, St. Charles; **Ernest E. Weinand**, St. Joseph; **Arthur I. Auer, Leslie F. Bond, Richard H. Fallon, Robert E. Kuhlman, Arthur B. Lissner, Henry E. Lattinville, William W. Manafo, Jr., George E. Rendleman, Jr.**, and **Jerome F. Levy**, St. Louis; **Elliot M. Braverman**, Sedalia; **Peter B. H'Doubler** and **John E. Manire**, Springfield; and **Ross N. Giem, Jr.**, Sullivan.

A small, wooded area near Milan has been donated as a roadside memorial park in memory of the late **Dr. J. S. Montgomery**, who served the residents in and around Milan for 50 years. The Milan Jaycees hope to develop "Montgomery Memorial Park" by spring, if sufficient funds are made available.

Dr. **Robert W. Kelley** is the new president-elect of the St. Louis Medical Society. He will take office as president in 1968. Other newly elected officers are: Vice-president, **Dr. Albert M. Repetto**; Secretary, **Dr. Charles B. Ladd**; New Councilors, **Drs. Charles A. Nester, Willard M. Allen, G. Lynn Krause, Jr.** and **Thomas B. Ferguson.** All except Dr. Kelley will take office at the January meeting, when **Dr. Max S. Franklin** will be installed as president. Present president is Dr. **George L. Hawkins, Jr.**

SQUIBB NOTES ON THERAPY

Breast-feeding and the "modern mother"

Despite a mild resurgence of interest in the importance of breast-feeding a few years ago, many women today do not choose to nurse their young. This is for a variety of reasons—social, economic, cultural and sometimes medical. In such cases the physician's task is to find the most suitable means of preventing lactation and easing the pain of breast engorgement.

The means of therapy

The value of hormone therapy for this indication is of course well established. Both androgen and estrogen are known to inhibit the production and secretion of the lactogenic hormone by the anterior pituitary. As estrogen levels decline sharply at parturition, lactogenesis is established. When androgen and estrogen are administered to the patient before the release of the lactogenic hormone lactation and breast engorgement are usually prevented.

The time of therapy

The time of administration of this combined medication is crucial; it must be given early enough to suppress the pituitary prolactin and last long enough to permit physiologic readjustment during the puerperium. Excellent results are most often seen when therapy is administered before the onset of the second stage of labor.

However, factors other than effectiveness must also be considered. The agent selected should not interfere in any way with parturition, subsequent uterine involution and the restoration of normal ovarian cyclic function. Furthermore, it should not cause rebound breast engorgement or other manifestations of hormonal imbalance.

A balanced formulation

Providing single-dose therapy for the prevention of lactation and breast engorgement, Deladumone OB is a potent androgen-estrogen combination with a prolonged action. The optimal balance of androgenic and estrogenic hormones achieved in this preparation minimizes the disadvantages inherent in single hormone therapy, such as rebound breast engorgement. Involution of the uterus and resumption of menstrual cycles are not affected.

As reported in a recent published study (Roser, D. M.: Obstet. & Gynec. *27*:73, 1966), Deladumone OB provided good suppression of breast engorgement in 95.3% and suppression of lactation in 81.1% of 86 obstetrical patients. These results are in general agreement with those of many earlier investigations; in several studies this injectable androgen-estrogen combination proved to be superior to oral medication.

Dosage:

As a single injection of 2 cc. before the onset of the second stage of labor.

Contraindications:

Established or suspected mammary cancer or genital malignancy.

Precautions and Side Effects:

Certain patients may be unusually responsive to either estrogenic or androgenic therapy. In such individuals virilization, uterine bleeding or mastodynia may occur.

Supply:

Deladumone OB, providing 180 mg. testosterone enanthate and 8 mg. estradiol valerate per cc., is available in 2 cc. Unimatic® disposable syringes and in 2 cc. vials. Both preparations are dissolved in sesame oil, with 2% benzyl alcohol as a preservative. *Before use, consult product literature for full prescribing information.*

Deladumone® OB

Squibb Testosterone Enanthate (180 mg./cc.)
and Estradiol Valerate (8 mg./cc.)
Single-dose injection for lactation inhibition

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Declaration of Helsinki

Recommendations Guiding Doctors in Clinical Research

(The Helsinki Declaration is being reprinted in MISSOURI MEDICINE *as recommended by the Missouri Delegates to the American Medical Association and with the approval of the Missouri State Medical Association Council.)*

It is the mission of the doctor to safeguard the health of the people. His knowledge and conscience are dedicated to the fulfillment of this mission. The Declaration of Geneva of the World Medical Association binds the doctor with the words: "The health of my patient will be my first consideration" and the International Code of Medical Ethics declares that "Any act or advice which could weaken physical or mental resistance of a human being may be used only in his interest." Because it is essential that the results of laboratory experiments be applied to human beings to further scientific knowledge and to help suffering humanity, the World Medical Association has prepared the following recommendations as a guide to each doctor in clinical research. It must be stressed that the standards as drafted are only a guide to physicians all over the world. Doctors are not relieved from criminal, civil and ethical responsibilities under the laws of their own countries.

In the field of clinical research a fundamental distinction must be recognized between clinical research in which the aim is essentially therapeutic for a patient, and the clinical research, the essential object of which is purely scientific and without therapeutic value to the person subjected to the research.

I. Basic Principles
  1. Clinical research must conform to the moral and scientific principles that justify medical research and should be based on laboratory and animal experiments or other scientifically established facts.
  2. Clinical research should be conducted only by scientifically qualified persons and under the supervision of a qualified medical man.
  3. Clinical research cannot legitimately be carried out unless the importance of the objective is in proportion to the inherent risk to the subject.
  4. Every clinical research project should be preceded by careful assessment of inherent risks in comparison to foreseeable benefits to the subject or to others.
  5. Special caution should be exercised by the doctor in performing clinical research in which the personality of the subject is liable to be altered by drugs or experimental procedure.

II. Clinical Research Combined With Professional Care
  1. In the treatment of the sick person, the doctor must be free to use a new therapeutic measure, if in his judgment it offers hope of saving life, re-establishing health, or alleviating suffering. If at all possible, consistent with patient psychology, the doctor should obtain the patient's freely given consent after the patient has been given a full explanation. In case of legal incapacity, consent should also be procured from the legal guardian; in case of physical incapacity, the permission of the legal guardian replaces that of the patient.
  2. The doctor can combine clinical research with professional care, the objective being the acquisition of new medical knowledge, only to the extent that clinical research is justified by its therapeutic value for the patient.

III. Non-Therapeutic Clinical Research
  1. In the purely scientific application of clinical research carried out on a human being, it is the duty of the doctor to remain the protector of the life and health of that person on whom clinical research is being carried out.
  2. The nature, the purpose and the risk of clinical research must be explained to the subject by the doctor.
  3a. Clinical research on a human being cannot be undertaken without his free consent after he has been informed; if he is legally incompetent, the consent of the legal guardian should be procured.
  3b. The subject of clinical research should be in such a mental, physical and legal state as to be able to exercise fully his power of choice.
  3c. Consent should, as a rule, be obtained

in writing. However, the responsibility for clinical research always remains with the research worker; it never falls on the subject even after consent is obtained.

4a. The investigator must respect the right of each individual to safeguard his personal integrity, especially if the subject is in a dependent relationship to the investigator.

4b. At any time during the course of clinical research the subject or his guardian should be free to withdraw permission for research to be continued. The investigator or the investigating team should discontinue the research if, in his or their judgment, it may, if continued, be harmful to the individual.

Continuing Education Coming Events

Dec. 7-8	**Current Concepts in Arthritis** Continuing Education, M.U. School of Medicine Medical Center, Columbia
Feb. 9	**Conference—Hematology: Utilization in Clinical Diagnosis** Continuing Education, M.U. School of Medicine Medical Center, Columbia
Mar. 1	**Post-Graduate Conferences for Practicing Physicians** Department of Internal Medicine St. Louis University School of Medicine Cardinal Glennon Hospital Auditorium, St. Louis (6 hours)
Mar. 8-9	**Conference—Management of Common Fungal Diseases** Continuing Education, M.U. School of Medicine Medical Center, Columbia
Mar. 31-Apr. 1	**19th Annual Midwest Cancer Conference** Lassen Hotel, Wichita, Kansas (AAGP credit)
Apr. 13	**Conference—Inflammatory Diseases of the Liver** Continuing Education, M.U. School of Medicine Medical Center, Columbia
May 10-11	**Conference—Hypertension** Continuing Education, M.U. School of Medicine Medical Center, Columbia

ACCIDENT AND HEALTH INSURANCE

The Missouri State Medical Association since 1943 has made available to its members a Special Disability Income Benefits Policy issued by our "Loyalty Group" Companies now a part of the America Fore-Loyalty Group Insurance Companies—the largest casualty-fire underwriting group in the world. The low cost at which the policy is offered is made possible through the purchasing power of the membership of your association as a whole.
Now, new plans offering long term income benefits as well as a special Major Hospital-Nurse Expense Plan have been added to the program. We suggest you who are already enrolled make sure your policy includes the maximum benefits. Those of you not enrolled, we suggest you do so today. Call or write:

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114 W. 10th St., Kansas City 5, Mo.
(Western Missouri Administrators)

New Members

Salvatore C. Apicella, M.D., 1515 Lafayette Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Apicella is a native of Malden, Massachusetts, received his preliminary education at Tufts University and his M.D. degree at Georgetown University in 1962. He specializes in radiology.

John P. Arnot, M.D., 35 N. Central, St. Louis, has become a member of St. Louis Medical Society. Dr. Arnot is a native of Amarillo, Texas, received his preliminary education at Rice University and his M.D. degree at Yale University in 1958. He specializes in orthopedics.

Denis Cavanagh, M.D., 1402 S. Grand, St. Louis, has become a member of St. Louis Medical Society. Dr. Cavanagh is a native of Paisley, Scotland, received his preliminary education at St. Mirin's Academy and his M.D. degree at Glasgow University in 1952. He specializes in obstetrics and gynecology.

Hillard K. Cohen, M.D., 11771 Natural Bridge, Bridgeton, has become a member of St. Louis Medical Society. Dr. Cohen is a native of Cincinnati, Ohio, received his preliminary education at the University of Cincinnati and his M.D. degree at the University of Cincinnati in 1960. He specializes in internal medicine.

Philip P. Doisy, M.D., 325 N. Kirkwood Rd., St. Louis, has become a member of St. Louis Medical Society. Dr. Doisy is a native of St. Louis, received his preliminary education at Central College and St. Louis University and his M.D. degree at St. Louis University in 1947. He specializes in internal medicine.

John L. Ferguson, M.D., 1500 East Sunshine, Springfield, has become a member of Greene County Medical Society. Dr. Ferguson is a native of Dallas, Texas, received his preliminary education at Southern Methodist University and his M.D. degree at the University of Texas in 1957. He specializes in internal medicine.

Richard P. Ferry, M.D., 141 N. Meramec, St. Louis, has become a member of St. Louis Medical Society. Dr. Ferry is a native of Kokomo, Indiana, received his preliminary education at St. Louis University and his M.D. degree at St. Louis University in 1962. He specializes in neurology.

Robert Frech, M.D., 510 S. Kingshighway, St. Louis, has become a member of St. Louis Medical Society. Dr. Frech is a native of Colfax, Washington, received his preliminary education at Dartmouth College and his M.D. degree at Howard University in 1960. He specializes in radiology.

Patrick G. Graham, M.D., 4320 Wornall Rd., Kansas City, has become a member of Jackson County Medical Society. Dr. Graham is a native of Ogden, Utah, received his preliminary education at William College and his M.D. degree at the Medical College of Virginia in 1958. He specializes in thoracic surgery.

James R. Hurd, M.D., 207 N. 5th St., St. Charles, has become a member of Lincoln-St. Charles Medical Society. Dr. Hurd is a native of East St. Louis, Illinois, received his preliminary education at Princeton University and his M.D. degree at Harvard University in 1961. He specializes in surgery.

Richard Kielar, M.D., 43 McKenzie, Ft. Leonard Wood, has become a member of Mid-Mo Medical Society. Dr. Kielar is a native of Lorain, Ohio, received his preliminary education at the University of Cincinnati and his M.D. degree at the University of Cincinnati in 1962. He specializes in ophthalmology.

Allen E. Kolker, M.D., 660 S. Euclid, St. Louis, has become a member of St. Louis Medical Society. Dr. Kolker is a native of St. Louis, received his preliminary education at Washington University and his M.D. degree at Washington University in 1957. He specializes in ophthalmology.

Arnoldo Kuczer, M.D., 4511 Forest Park Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Kuczer is a native of Buenos Aires, Argentina, received his preliminary education at Colegeo Nacional Mariano Moreno and his M.D. degree at the University of Buenos Aires in 1966. He specializes in otolaryngology.

Felix E. F. Larocca, M.D., 369 N. Taylor, St. Louis, has become a member of St. Louis Medical Society. Dr. Larocca is a native of Santiago, Dominican Republic, received his preliminary education at Liced Ulises F. Espaillat and his M.D. degree at the University of Santo Domingo in 1959. He specializes in child psychiatry.

Glen C. McCray, M.D., 3715 Johnson, Shawnee Mission, Kansas, has become a member of Jackson County Medical Society. Dr. McCray is a native of Neodesha, Kansas, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1950. He specializes in child psychiatry.

Robert E. Olson, M.D., 1402 S. Grand, St.

Louis, has become a member of St. Louis Medical Society. Dr. Olson is a native of Minneapolis, Minnesota, received his preliminary education at Gustavus Adolphus College and St. Louis University and his M.D. degree at Harvard University in 1951. He specializes in internal medicine.

Leopoldo M. Ortiguero, M.D., 1102 Bellerive Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Ortiguero is a native of the Philippines, received his preliminary education at the Far Eastern University and his M.D. degree at the University of Sto. Tomas in 1953. He specializes in surgery.

Orhan Ozmat, M.D., 3936 Louis St., St. Louis, has become a member of St. Louis Medical Society. Dr. Ozmat is a native of Luleburgaz, Turkey, received his preliminary education at the College of Istanbul and his M.D. degree at the Istanbul University in 1952. He specializes in radiology.

Blanca M. Perez, 216 S. Kingshighway Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Perez is a native of Restrepo, Colombia, received her preliminary education at Colegio Academico and her M.D. degree at Universidad del Valle in 1961. She specializes in pathology.

Steven Plax, M.D., 4511 Forest Park Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Plax is a native of St. Louis, received his preliminary education at Washington University and his M.D. degree at the University of Missouri in 1961. He specializes in pediatrics.

Edward A. Roach, M.D., 207 N. 5th, St. Charles, has become a member of Lincoln-St. Charles Medical Society. Dr. Roach is a native of Smithville, Massachusetts, received his preliminary education at Merrimack College and his M.D. degree at St. Louis University in 1958. He specializes in internal medicine.

Robert J. Ryan, M.D., 9955 Warshire, St. Louis, has become a member of St. Louis Medical Society. Dr. Ryan is a native of Chicago, Illinois, received his preliminary education at Loyola University and his M.D. degree at St. Louis University in 1962. He specializes in obstetrics and gynecology.

Theodore L. Sandow, Jr., M.D., 4320 Wornall Rd., Kansas City, has become a member of Jackson County Medical Society. Dr. Sandow is a native of Chicago, Illinois, received his preliminary education at the University of Illinois and his M.D. degree at New York University in 1959. He specializes in orthopedic surgery.

James H. Satterfield, M.D., 4940 Audubon Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Satterfield is a native of Henderson, Kentucky, received his preliminary education at the University of Mississippi and his M.D. degree at Washington University in 1955. He specializes in psychiatry.

Robert J. Slotkin, M.D., 207 N. 5th St., St. Charles, has become a member of Lincoln-St. Charles Medical Society. Dr. Slotkin is a native of Wilkes-Barre, Pennsylvania, received his preliminary education at Purdue University and his M.D. degree at the University of Virginia in 1961. He specializes in pediatrics.

David Lewis Spalding, M.D., Professional Bldg., Springfield, has become a member of Greene County Medical Society. Dr. Spalding is a native of St. Joseph, received his preliminary education at the University of Missouri and his M.D. degree at the University of Kansas in 1959. He specializes in ophthalmology.

David Stager, M.D., 43 McKenzie, Ft. Leonard Wood, has become a member of Mid-Mo Medical Society. Dr. Stager is a native of Dover, Ohio, and received his preliminary education at John Carroll University and his M.D. degree at the Ohio State University in 1961. He specializes in ophthalmology.

Edward M. Stevens, M.D., 702 Jule, St. Joseph, has become a member of the Buchanan County Medical Society. Dr. Stevens is a native of Norborne, received his preliminary education at the University of Missouri and his M.D. degree at the University of Missouri in 1960. He specializes in radiology.

Richard O. Sword, M.D., 800 W. 47th St., Kansas City, has become a member of Jackson County Medical Society. Dr. Sword is a native of Chicago, Illinois, received his preliminary education at the School of Dentistry, University of Illinois, and his M.D. degree at the University of New York in 1957. He specializes in psychiatry.

Arthur M. Townsend, III, M.D., 5805 Easton Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Townsend is a native of St. Louis, received his preliminary education at the University of Michigan and his M.D. degree at Howard University in 1962. He specializes in obstetrics and gynecology.

Eugene Valins, M.D., 751 E. 63rd St., Kansas City, has become a member of Jackson County Medical Society. Dr. Valins is a native of Cleveland, Ohio, received his preliminary education at Western Reserve University and his M.D. degree at Western Reserve University in 1960. He specializes in psychiatry.

Marlys Hearst Witte, M.D., 1515 Lafayette, St. Louis, has become a member of St. Louis Medical Society. Dr. Witte is a native of New York, New York, received her preliminary education at Columbia University and her M.D. degree at New York University in 1960. She specializes in internal medicine.

Robert A. Woodruff, Jr., M.D., 4940 Audubon Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Woodruff is a native of Rochester, Michigan, received his preliminary education at Harvard College and his M.D. degree at Harvard University in 1960. He specializes in psychiatry.

In Memoriam

Vogel, Eugene August, M.D., St. Louis, a graduate of Washington University, 1921; member of St. Louis Medical Society; aged 68; died September 28, 1966.

Snider, Samuel H., M.D., Kansas City, a graduate of Washington University, 1914; member of Jackson County Medical Society; aged 78; died October 2, 1966.

Carpenter, George W., M.D., Utica, a graduate of Ensworth Medical College, 1905; member of Grand River Medical Society; aged 86; died October 7, 1966.

Marty, Lorraine A., M.D., Leawood, Kansas, a graduate of the University of Kansas City, 1900; member of Ozarks Medical Society; aged 88; died October 17, 1966.

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plus important supportive benefits that help her through those critical early months of oral contraception

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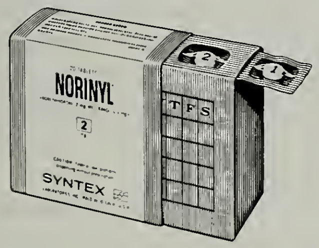

Contraindications: Thrombophlebitis or pulmonary embolism (current or past). Existing evidence does not support a causal relationship between use of Norinyl and development of thromboembolism. While a study which was conducted does not resolve definitively the possible etiologic relationship between progestational agents and intravascular clotting, it tends to confirm the findings of the Ad Hoc Advisory Committee appointed by the Food and Drug Administration to review this possibility. Cardiac, renal or hepatic dysfunction. Carcinoma of the breast or genital tract. Patients with a history of psychic depression should be carefully studied and the drug discontinued if depression recurs to marked degree. Patients with a history of cerebral vascular accident.

Warning: Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions, medication should be withdrawn.

Precautions: By May 1963, experience with norethindrone 2 mg.—mestranol 0.1 mg. had extended over 24 months. Through miscalculation, omission or error in taking the recommended dosage of Norinyl, pregnancy may result. If regular menses fail to appear and treatment schedule has not been adhered to, or if patient misses two menstrual periods, possibility of pregnancy should be resolved before resuming Norinyl. If pregnancy is established, Norinyl should be discontinued during period of gestation since virilization of the female fetus has been reported with oral use of progestational agents or estrogen. When lactation is desired, withhold Norinyl until nursing needs are established. Existing uterine fibroids may increase in size. In metabolic or endocrine disorders, careful clinical preevaluation is indicated. A few patients without evidence of hyperthyroidism had elevated serum protein-bound iodine levels, which in the light of present knowledge, does not necessarily imply hyperthyroidism. Protein-bound iodine increased following estrogen administration. Bromsulphalein retention has occurred in up to 25% of patients without evidence of hepatic dysfunction. Studies from 24-hour urine collections have shown an increase in aldosterone and 17-ketosteroids and decrease in 17-hydroxycorticoid levels. Thus, Norinyl should be discontinued prior to and during thyroid, liver or adrenal function tests. Because progestational agents may cause fluid retention, conditions such as epilepsy, migraine and asthma require careful observation. Thus far no deleterious effect on pituitary, ovarian or adrenal function has been noted; however, long-range possible effect on these and other organs must await more prolonged observation. Norinyl should be used with caution in patients with bone, renal or any disease involving calcium or phosphorus metabolism.

Side Effects: Intermenstrual bleeding; amenorrhea; symptoms resembling early pregnancy, such as nausea, breast engorgement or enlargement, chloasma and minor degree of fluid retention (if these should occur and patient has not strictly adhered to medication plan, she should be tested for pregnancy); weight gain; subjective complaints such as headache, dizziness, nervousness, irritability; in a few patients libido was increased. In a total of 3,090 patients, 2.2% discontinued medication because of nausea.

NOTE: See sections on contraindications and precautions for possible side effects on other organ systems.

Dosage and Administration: One Norinyl tablet orally for 20 days, commencing on day 5 through and including day 24 of the menstrual cycle. (Day 1 is the first day of menstrual bleeding.)

Availability: Dispensers of 20 and 60 tablets; bottles of 100.

References: 1. Council on Drugs. JAMA 187:664 (Feb. 29) 1964. 2. Bryans, F. E.: Canad Med Ass J 92:287 (Feb. 6) 1965. 3. Goldzieher, J. W.: Med Clin N Amer 48:529 (Mar.) 1964. 4. Cohen, M. R.: Paper presented at Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med Sci 16:26 (Nov.) 1965. 5. Hammond, D. O.: Ibid. 6. Rice-Wray, E., Goldzieher, J. W., and Aranda-Rosell, A.: Fertil Steril 14:402 (Jul.-Aug.) 1963. 7. Goldzieher, J. W., Moses, L. E., and Ellis, L. T.: JAMA 180:359 (May 5) 1962. 8. Kempers, R. D.: GP 29:88 (Jan.) 1964. 9. Tyler, E. T.: JAMA 187:562 (Feb. 22) 1964. 10. Rudel, H. W., Martinez-Manautou, J., and Maqueo-Topete, M.: Fertil Steril 16:158 (Mar.-Apr.) 1965. 11. Flowers, C. E., Jr.: N Carolina Med J 25:139 (Apr.) 1964. 12. Goldzieher, J. W.: Appl Ther 6:503 (June) 1964. 13. The Control of Fertility. Report adopted by the Committee on Human Reproduction of the American Medical Association. JAMA 194:462 (Oct. 25) 1965. 14. Flowers, C. E., Jr.: JAMA 188:1115 (June 29) 1964. 15. Merritt, R. I.: Appl Ther 6:427 (May) 1964. 16. Newland, D. O.: Paper presented at Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med Sci 16:26 (Nov.) 1965.

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State Med and Healing Arts Approve 'Umbrella' Plan for Paramedicals

The Missouri State Medical Association and the State Board of Registration for the Healing Arts have agreed to press for state legislation to bring various paramedical groups under Board jurisdiction. The recommendation was presented to the MSMA Council at its September 24-25 meeting by Dr. John I. Matthews, Chairman of the Committee on Legislative Matters.

Doctor Matthews noted that several ancillary medical organizations have been attempting in recent years to obtain authorization from the legislature to establish licensing or certification programs under their own regulatory boards. So far, the legislature has refused to add more administrative boards to the sizeable number which already exist. Legislative objections have centered on the expense of such proliferation, the possible duplication of policing and investigatory activities, and the conflicts which might arise in attempting to give legal definition to the various areas of practice.

The Legislative Committee's proposal contemplates a system wherein each paramedical group might have its own practice board or committee which could license or certify practitioners, utilize the office and investigatory facilities of the Board of Registration, and be ultimately responsible to the Board for all actions. MSMA, the Board of Registration and the State Osteopathic Association will cooperate in working out details of such a plan and supporting appropriate legislation.

Doctor Matthews also informed the Council of the work which had been done in support of implementation of Title 19, P.L. 89-97 in Missouri. MSMA representatives have been in contact with Mr. Proctor Carter, Director of the State Division of Welfare, and have prepared a plan of priorities for implementing the various required steps in Title 19. After the Council approved this action, the recommended priority schedule was submitted to Mr. Carter and through him to Governor Warren E. Hearnes.

Dr. John H. Walters, Chairman of the Committee on Nursing and Paramedical Personnel, presented the Council with a proposal for the recruiting and placement of nurses and other paramedical workers. The plan, which was approved, authorizes the MSMA Woman's Auxiliary to assume primary responsibility for the program in cooperation with the MSMA Executive Office. The program would utilize appropriate literature to encourage young persons to enter the nursing and paramedical fields; it would assist young hopefuls in finding the proper school or training position; and then attempt to direct trained persons to those areas within the state where they are most needed.

Auxiliary President Mrs. Wallace Stacey pledged the full support of the organization of physicians' wives, and she named Mrs. Roger Bumgarner to spearhead the project.

Messrs. Tom O'Brien and John Noble informed the Council that the Internal Revenue Service's investigation of MSMA finances had been brought to a successful conclusion. After a series of conferences and a thorough examination of Association records, IRS agreed that MSMA income from the rental of exhibit space at the Annual Session is not unrelated business income and, therefore, is not taxable.

The Chairman of the MSMA Committee on Mental Health, Dr. Henry V. Guhleman, reported on the series of discussions which his Committee had conducted with the Missouri Psychological Association. The two groups are attempting to reach agreement on a plan to give the psychologists statutory status. Doctor Guhleman said that the only major point of difference which had not been resolved involves the problem of guaranteeing some sort of medical control or supervision over those psychologists who practice psychotherapy.

The Council engaged in lengthy discussion on the question of employing physicians with temporary practice licenses in private hospitals. Dr. H. G. Parker, President of the State Board of Registration for the Healing Arts, said that the law on this point is very clear and that the Board has not changed its policy regarding temporary licensed physicians.

The Council received a report of the Committee on Utilization Review, calling attention to the anticipated shortage of extended care facilities for the next phase of Medicare. The extended care or nursing home provisions of Medicare go into effect January 1, 1967. (See President's Message.) The Council voted to urge the Missouri Hospital Association to study the possibility of a program to add new extended care facilities to present hospital plants.

Dr. Leonard Furlow, Chairman of the Medico-Legal Committee, gave the Council a report on the first meeting between his group and its counterpart from the Missouri Bar Association. He said that the Bar committee was interested primarily in establishing a system which would assure the availability of expert medical testimony in malpractice law suits. The physicians and lawyers who attended the meeting agreed on a broad basic plan, and a sub-committee was named to work out details and return to the full committees with a draft proposal.

Council members attending the meeting were:

David N. Kerr, M.D., Chairman, 3rd District
Doyle C. McCraw, M.D., Vice-Chairman, 8th District
Joseph L. Fisher, M.D., 1st District
Lysle M. Bach, M.D., 2nd District
James C. Cope, M.D., 5th District
Rolla B. Wray, M.D., 6th District
Gerald L. Miller, M.D., 7th District
E. A. Stricker, M.D., 9th District
W. D. English, M.D., 10th District
Byron M. Stuart, M.D., MSMA President
Hector W. Benoit, Jr., M.D., MSMA President-Elect
John I. Matthews, M.D., MSMA Secretary
Walter T. Gunn, M.D., MSMA Treasurer
Paul R. Whitener, M.D., MSMA Immediate Past President

The next meeting of the Council will be held in St. Louis, December 10 and 11, 1966.

This Council report covers only the highlights of the September meeting. The complete official report of Council proceedings is on file in the Executive Office of MSMA and copies have been sent to all members of the Council and to component medical societies.

Fulton 'Doc' Featured in Post-Dispatch Article

The story of Dr. Robert Nelson Crews, who is practicing medicine in Fulton at the age of 95, was told in a feature article in the *St. Louis Post-Dispatch* October 27. Dr. Crews is believed to be the oldest practicing physician in Missouri and has practiced medicine in Callaway County longer than any other medical doctor.

Wayne Leeman, author of the article, described how Dr. Crews has made the transition from horse and buggy to the jet age in 70 years. He recently flew to New York via jet plane to visit his two daughters.

Dr. Crews began his practice of medicine on October 17, 1896 in Williamsburg, where he used horses and a buggy for house calls. He moved to Fulton in 1909 and bought his first automobile in 1911. That first automobile did not have a top or windshield because they were "too expensive." At that time, the charge was $1.00 for local house calls, $2.50 for calls of five or six miles distance and $3.00 for longer distances.

Dr. Crews was born September 11, 1871, in Halifax County, Virginia. One of 12 children, he came west with a brother "mostly out of a sense of adventure." He graduated from Barnes Medical College in St. Louis in 1896. To help finance his studies, he worked as an operating room nurse in City Hospital for $35 a month.

Dr. Crews told of the hardships in visiting patients early in his practice. When the winter roads were too muddy for the buggy, he rode horseback. It was necessary to have leather-covered stirrups and, often, he wore leather leggings as protection against the cold winds. Also, he wrapped himself in a robe, frequently lit a lantern and put it under the robe to keep warm. The temperature once dipped to 28 degrees below zero. That was when one of his cheeks froze.

Dr. Crews maintains that "the practice of medicine is not all science. There is an art in relieving human ills. Faith is involved. The patient's mental and emotional problems must be treated as well as his physical ailments."

Mr. Leeman states that Dr. Crews credits his long life to keeping active mentally and physically, moderation in all things, plenty of protein in his diet and a long nap after dinner.

One of Dr. Crews' three children is a dentist in Fulton.

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Warning: Patients should be cautioned not to drive vehicles or use hazardous machinery while on therapy.

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As with all polypeptides, the possibility of muscular weakness, including apnea, due to inadvertent overdosage or normal dosage in the presence of impaired renal function, should not be overlooked. In cases of apnea, medication should be promptly discontinued and assisted respiration given until serum levels fall and normal breathing is restored.

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MARK M. MARKS, M.D., *Kansas City*

Third National Congress on Medical Quackery

On October 7-8, a gathering of 600 people representing medicine, government and health agencies came to a symposium on the nefarious trade in human lives which costs the American public countless millions of dollars in addition to the agony and needless death caused by neglect.

Sponsoring the Third National Congress on Medical Quackery in Chicago were the American Medical Association and the National Health Council. The number and excellence of the talks and papers presented represented the extent and importance of the various phases of the overall problem of medical quackery that ceaselessly and increasingly plagues the populace.

Dr. James Goddard, commissioner of the Food and Drug Administration, briefly outlined the constant efforts that his department extends in bringing false drug and device quackery to justice. He said that FDA must be more vigilant than ever as people are more health conscious and the growing field of communication makes people more eager to try health remedies. He mentioned the nationally touted nostrum for weight reduction, "Regimen," as an example of collusion between irresponsible advertisers and fakers. Hardly has one device been removed by court order than another purveyor, or perhaps the same one under a different title and address, brings forth a gadget that promises to take off weight effortlessly, bring bouyant health or effect a miraculous cure . . . entirely worthless but often costly. The public is ready to try anything regardless of who recommends it.

Ronald Deutsch, a well-known author who has been debunking the sellers who prey on the people through nutritional nonsense, spoke on the magnitude of the problem. He pointed out that the "depleted soil" fraud is still being used as a cudgel to sell high priced foods that can be obtained at any grocery for a fraction of the cost. Poor soil, he reiterated, brings poor yield, but not poor food. He criticized materials on health being used in the training of teachers and felt that this kind of education does much to condition the population to accept the claims of advertisers.

In his presentation, *Obesity: A Growing Problem*, I. Frank Tullis, M.D., brought out the fact that not only quacks and charletons were obtaining huge profits from various methods promising weight reduction, but that reputable physicians were setting up offices where weight reduction was the primary practice. Drugs were given without complete control, with inadequate supervision, and inadequate history and physical examination. Too often almost total disregard for the well being of the patient was shown. The problem of trying to reach an uninformed public regarding fluoridation of drinking water was pointed out by Arthur Flemming, president of Oregon University. He decried the fact that in spite of the evidence by qualified dental societies and dental schools, the vociferous opponents preying on the fears of people are able to prevent the use of fluorides in many sections of the country. The need for a continued program of education on this should not be overlooked, according to this speaker.

At the luncheon, Dr. William Gordon of Lubbock, Texas discussed *Why People Go to Quacks.* He maintains "that they seek that which they do not find or want to find." Often there is a thin line between the ethical, honest treatment and the unethical, dishonest because the medical doctor is limited by his knowledge and the quack sells himself with the sky as the limit.

The afternoon program began with the story of "Krebiozen" from its start to the present time. In spite of being labeled as a cruel hoax by Dr. James F. Holland of Roswell Park Memorial Institute, it was of interest to know that, all through the two day sessions, pickets were marching back and forth and all around the hotel carrying signs declaring that they were living examples of cures that "Krebiozen" had accomplished. They accused the AMA and the FDA of being murderers, money grabbers, etc. The speaker stated that ample opportunity had been given to Dr. Ivey and the proponents of the questionable drug for testing by a neutral, ethical group of investigators. This was refused. The two samples submitted for chemical analysis proved to be mineral oil alone and in combination with a simple protein that has no therapeutic properites.

Since illness prevented Mrs. Winthrop Rockefeller from being at the meeting, she delegated the reading of her speech to one of the executives of the Mental Health Society. Tremendous damage is done in the mental health field by quackery in psychological counseling and in marriage counseling.

Dr. Robert J. Samp of the University of Wisconsin Medical Center spoke next on *A Look Inside Medicine's Own House.* He brought into sharp focus that there are "sinners among us" . . . doctors of medicine who seem to have forgotten their professional oath taken when they are admitted to the honored fraternity.

Irving Ladimer, vice-president of National Better Business Bureau of New York City, speaking on *Literature and Advertising* told of the increasing flood of books, columns, and articles dealing with problems of health because the public craves scientific knowledge. It becomes increasingly important to check the quality of material which reaches the public.

The last paper of the day dealt with the cost of quackery and was given by John W. Miner, Esq., chief medicolegal section of the District Attorney's Office, Los Angeles County, California. His office is the only one of its kind in this country and he is perhaps the most active lawyer in the country engaged in prosecuting quackery. Mr. Miner equates quackery with a triad—fraud, theft and death. He estimates the total cost of quackery in America from one to three billion dollars or about two per cent of our national debt. The difficulty of prosecution and examples of cases were presented by the speaker.

The Saturday morning session was alloted to the subject of chiropractic, and so much was said that the session, which began at 9:00 AM and was scheduled to end at noon, ran overtime. Dr. H. Thomas Ballentine, Jr., of Massachusetts General Hospital and Harvard Medical School, called chiropractors "physicians of fools" because this cult, with the claim of one cause and one treatment for all human ills, has not a single scientific fact to support the contention of being a healing art. Nevertheless, by persistent pressure on state legislators, chiropractic is licensed in 48 of our 50 states. Often lawmakers contend that licensing gives control, but too often it gives the cloak of respectability, and chiropractic constantly strives for greater legal permissiveness in the treating of the sick.

A special feature regarding state acceptability of chiropractic was discussed by Dr. Eugene Robillard, associate dean of the faculty of medicine, University of Montreal. He told of two political parties in Quebec, many years apart, who made honest attempts to find out how chiropractic would benefit their people in any way. After diligent investigation in Europe and the United States of the chiropractic schools and teaching, both reported that accepting chiropractic as a healing art would be both useless and dangerous. Despite this, the practice of the method still exists in Canada and is growing.

Joseph A. Sabier, M.D., a member of the Committee on Quackery of the American Medical Association, used slides to show excerpts from the literature of chiropractic. From their own literature and claims, he showed that from their beginning in 1886 and first licensure in 1918 not a single scientific fact has been brought forth to strengthen their position, and yet the number of practitioners grows. Dr. Sabier is from Louisiana and pointed out that it is because of constant vigilance by their Society that chiropractic is not licensed there.

After a review of all papers by Henry I. Finebert of New York, a member of the AMA Committee on Quackery, the meeting adjourned.

Displays by the AMA and by health agencies also were a feature of the Congress.

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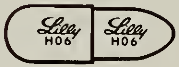	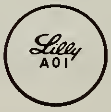	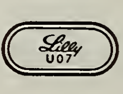	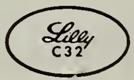	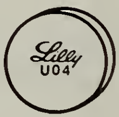

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W. L. DONEGAN, M.D., J. FRAENKEL-CONRAT, Ph.D. *and*
F. R. WATSON, Ph.D., *Columbia*

The Cancer Research Center

A Progress Report

The Cancer Research Center (CRC), a charitable, educational and scientific nonprofit corporation, was founded in Columbia in September of 1963 by a group of private citizens interested in the promotion and advancement of scientific and medical research for the control of cancer. Through a program of research and education, the Center's goal is to assimilate and to contribute new scientific knowledge and to apply this knowledge to the detection, prevention and treatment of malignant disease. To this end the Center receives funds, provides space, purchases equipment and employs a scientific, medical and administrative staff.

The development of the CRC has been intimately associated spatially and functionally with the existing Ellis Fischel State Cancer Hospital (EFSCH) in which it is presently located. The growth of this relationship has been the subject of previous publications.[1-3] The present article is in the nature of a progress report on the activities of the CRC and the program being conducted through newly established clinical research and basic science facilities.

The newly established Clinical Research Unit at the Cancer Research Center in Columbia is the first of its kind in Central Missouri. This special report describes the program now being conducted through its facilities, as well as those of the newly designed and equipped biochemistry laboratories.* Doctors Donegan, Fraenkel-Conrat and Watson are the principal research associates at the Center.

The Cancer Clinical Research Center Grant of $1,500,000 awarded to the CRC in November of 1964 by the National Cancer Institute enabled remodeling of the entire fifth and eighth floors of the EFSCH, where in late 1965 and early 1966 a clinical research unit, biochemistry laboratories and a biostatistical department began operations. Each of these facilities, under the direction of principal research associates, has initiated both departmental and interdisciplinary research programs. Resumes of the capacities and activities of each follow:

Clinical Research Unit

The Clinical Research Unit, presently under the direction of William L. Donegan, M.D., is located at the west end of the remodeled fifth floor of the EFSCH. Established to permit the interpretation of advances in basic science into clinical practice by qualified medical investigators, it represents the first of its kind in Central Missouri.

The 8-bed unit consists of ten rooms including three patient-care wards, a treatment room, utili-

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* Cancer Research Center investigations are supported by Cancer Clinical Research Center Grant No. CA-08023-02 from the U. S. Department of Health, Education and Welfare, National Cancer Institute, National Institutes of Health, Bethesda, Maryland.

ty room, kitchen, nursing station, solarium, bath area, store room and offices. It is furnished with the latest in equipment, including two Sanborn 780 Central Monitoring Units, by means of which instantaneous vital signs are relayed to a central panel at the nurses' station for viewing and recording. The entire unit is air conditioned, and each room is equipped with a two-way intercommunication system.

The facilities, staffed by highly qualified registered nurses under the direction of an Assistant Director of Nursing for Research, are available to members of the basic science and medical professional staff of EFSCH and CRC and members of the basic science staff of the University of Missouri Medical Center.

The Office of Clinical Research administrates the Clinical Research Unit, in addition to reviewing and keeping permanent records on all research projects involving the participation of human subjects conducted in the CRC and EFSCH. The conduct of clinical research involving human subjects within the Center has been strictly in accordance with the Directives of the Surgeon General of the USPHS dated February and March 1966. All projects are reviewed by a five man committee to assure an independent determination of: (1) rights and welfare of the individual or individuals involved; (2) the appropriateness of the method used to secure informed consent; and (3) the risks and potential medical benefits of the investigation. The review committee consists of the Director of the Clinical Research Unit and four members of the Cancer Research Center and EFSCH professional staff representing the fields of surgery, internal medicine, pathology and a basic science. All patients admitted are volunteers who actively cooperate with a full understanding of the purpose of the respective project.

Biochemical laboratories are located on the eighth floor of the present Ellis Fischel State Cancer Hospital.

The procedures and policies for conducting clinical research within this institution have been compiled in the "Clinical Research Policy Manual" which is available to all investigators and interested parties.

The first patient was admitted to the Clinical Research Unit on April 5, 1966, and in the subsequent five months (through September 13), 35 patients were admitted. The average days of bed occupancy per patient are 24 and the average daily bed occupany since the opening date 71%. Increasing utilization of this facility is reflected in the average daily bed occupancy per month since its activation: April 1966–41%; May–69%; June–86%; July–85%; August–74%; September–100%.

The emphasis of current clinical research is upon the more effective use of chemotherapy both systemically and regionally.

Active Protocols

R66-1 Intra-arterial regional infusion chemotherapy for malignancies of the head and neck, extremities, and pelvis. William L. Donegan, M.D.

R66-2 Regional isolated perfusion of Alkeran brand Melphalan for malignant melanoma. William L. Donegan, M.D.

R66-3 Research in new cancer chemotherapy agents. Protocols of the Western Cooperative Cancer Chemotherapy Group. Reginald P. Pugh, M.D.

R66-4 Surgical management of advanced cancer of the urinary bladder. John S. Spratt, Jr., M.D., F.A.C.S.

R66-5 The development of more effective means for using electronic speech aids in the laryngectomized patient. Robert L. Glass, M.D.

R66-6 Host immunization with autologous neoplastic tissue. Reginald P. Pugh, M.D., and William L. Donegan, M.D.

R66-7 Continuing experiences with a thermoplastic balloon for endometrial diagnosis. Galen B. Cook, M.D.

Biochemistry Laboratories

Newly designed and equipped biochemistry laboratories on the eighth floor of the EFSCH became operational in January 1966 under the direction of Jane Fraenkel-Conrat, Ph.D. The facility consists of two laboratories, a cold room for refrigerated equipment and an office. An assistant and two graduate students in biochemistry (University of Missouri Medical Center), completed the staff.

Dr. Fraenkel-Conrat's past research interests in leukemia are being pursued and expanded in this department. The major work is studies of intracellular proteolytic enzymes of white blood cells called cathepsins, which are altered in various types of leukemia and in polycythemia. Through Dr. Fraenkel-Conrat and Dr. Bertis Westfall, Professor of Pharmacology at Missouri University, the staff and facilities of the Clinical Research Center work on related projects in cancer research being conducted by members of the basic science staffs at Missouri University.

Research in Progress

1. Investigation of plasma inhibitor(s) to leukocytic cathepsins.
2. Isolation of cell particles of leukocytes in search for site of catheptic activity and further characterization of enzymic differences noted in normal, leukemic and polycythemic individuals.
3. Investigation of the specificity of leukocytic cathepsins in health and disease.
4. Determination of urinary excretion patterns of estrone, estradiol, estriol, and androgens in patients with mammary carcinoma.
5. Development of a rapid accurate method for determining the urinary excretion of amino acids.
6. The clinical usefulness of adenosin deaminase as a regional chemotherapeutic agent.
7. Autoimmunity in the treatment of cancer.

Biostatistical Unit

The biostatistical department, under the direction of Francis R. Watson, Ph.D., Associate Research Statistician, began operation in October 1964. It employs a statistician, two programmers, two coders, a keypuncher and a secretary, and it occupies three rooms at the east end of the fifth floor of the Hospital. Present equipment consists of a 1050 Data Transmission System, an interpreting IBM card punch, a card verifier, a card sorter and a reproducing card punch. The 1050 Unit is an inquiry station which will be linked to the IBM 360 Computer at the University of Missouri. This linkage will allow the Center to have immediate access to a large computer.

The biostatistical unit is presently performing two major functions. The first is consultation for clinical investigators on the large number of statistical problems related to clinical research studies. Ready statistical consultation improves the meaningfulness and control of clinical studies in addition to serving an educational function. Simplified programs have been written to assist individual investigators to do Chi squares, t tests, and life tables on their respective data. The second major function of the biostatistical unit is investigation of methods for improving data collection, recording and retrieval. This includes collecting, coding and analyzing data from over 36,000 clinical records accumulated since the EFSCH was opened in 1940. Simultaneously with the compilation of this data, computer programs are being developed which will eventually allow individual physicians to obtain, within a few minutes or even seconds, the results of any of the numerous types of analyses which may be made upon the data. The highly technical discipline of statistics and of computer programming is meeting the increasing need for speed and accuracy in medical and scientific research.

The 8-bed Clinical Research Unit of the Cancer Research Center features equipment for central monitoring of vital signs.

Some of the data processing equipment of the Cancer Research Center's biostatistical unit.

FUTURE PROJECTS

In response to present needs and pursuant to the goals of the CRC Corporation, a number of projects are presently in various stages of planning and initiation.

New Laboratory Building: The expanding program of research conducted by the CRC has involved a practical need for sufficient working area. As maximum use has already been made of all available floor space in the existing EFSCH, the Center has undertaken the construction of a laboratory building to the west of the present Hospital. Schematic plans have been approved by the Board of Directors and construction is scheduled to begin early in 1967. It is anticipated that this structure will accommodate additional laboratories, an enlarged biostatistical unit and administrative offices.

Research Cancer Detection Center: Plans are under development for a research cancer detection center for the study of diagnostic methods which will optimize the detection of cancer in its early stages in asymptomatic individuals. As malignant disease is most curable in its early stages, the importance of such a center is obvious.

Rehabilitation Unit: A federal grant and support from the Missouri State Director of Rehabilitation is pending for the establishment of a much needed rehabilitation unit in connection with the EFSCH and CRC. The important rehabilitation problems which follow radical cancer surgery, including nutritional support after extensive intestinal resections, colostomy and ileostomy care, voice training, and many others will receive attention. A research program in rehabilitation has already been initiated under the direction of Robert L. Glass, M.D., on a limited basis.

SUMMARY

The Cancer Research Center, a nonprofit corporation, was founded in Columbia in 1963 by private citizens committed to the advancement of cancer control through a program of research and education. Supported by federal grants and private sources, this organization has initiated a program of scientific and clinical research in association with the EFSCH through the establishment of biochemical laboratories, a biostatistics department and a cancer clinical research unit. Future development includes plans for a laboratory building, a research cancer detection center and a research rehabilitation program.

BIBLIOGRAPHY

1. Cook, Galen B.: Editorial. Missouri Med. 61:1030, 1964.
2. Kubin, M. T. and Spratt, J. S., Jr.: Current Operation of the Ellis Fischel State Cancer Hospital. Missouri Med. 60:1099, 1963.
3. Spratt, J. S. and Kubin, M. T.: 1964-1965 Annual Report: Ellis Fischel State Cancer Hospital and Cancer Research Center. Missouri Med. 62:980, 1965.

The third Midwest Conference on the Thyroid, for researchers from all disciplines interested in any aspect of thyroid investigation, will be held on the University of Missouri campus at Columbia, February 17-18. "The Role of the Thyroid in Controlling Body Temperature and Metabolism" is the conference theme. Researchers are invited to submit abstracts of their papers on the subject. They must be received by December 31, 1966. A limited number of papers then will be selected for presentation during the two-day meeting. Six prominent investigators will be guest speakers.

Abstract forms and further information may be obtained by writing the Executive Director, Continuing Medical Education, M-176 Medical Center, University of Missouri, Columbia, Mo. 65201.

JOHN S. SPRATT, JR., M.D. *and*
PUN F. YUEN, M.D., *Columbia*

Retroperitoneal Lymph Node Dissection and Resection of Pulmonary Metastases for Testicular Cancers

Case Reports

AMONG THE LARGE SERIES OF TESTICULAR CANCERS reported from Walter Reed Army Hospital by Patton and Mallis,[1] mention was made of three long-term survivors following pulmonary lobectomies for the removal of metastases from teratocarcinomas. Two recent cases from the Ellis Fischel State Cancer Hospital (EFSCH) emphasize the occasional utility of pulmonary resection for testicular cancers.

CASE REPORTS

Case # 1: This 22-year-old white male was first referred to the EFSCH on June 24, 1963 with a history of a mass in the right testicle first noted at the beginning of June, 1963. A right orchiectomy was performed on June 12. The patient was referred to the EFSCH subsequent to the orchiectomy. He was discharged after the first evaluation and again admitted in November. A periaortic node dissection was performed on November 15, 1963. The postoperative course was uneventful and the patient was discharged. He was followed closely in clinic and in February 1964, three months after the periaortic node dissection, two metastatic nodules in the left lower lobe appeared on the follow-up thoracic roentgenogram.

On February 6, 1964, the patient had a left exploratory thoracotomy with a wedge resection in the left lower lobe for the metastases. He again did well postoperatively and was then discharged on February 13, 1964. The pathologists, Dr. R. E. Johnson, diagnosed malignant teratoma with seminoma of the right testis on the orchiectomy specimen. In the periaortic and right iliac node dissection, the patient had no metastases among 34 lymph nodes dissected. However, the specimen from the wedge resection from the left lower lobe showed metastatic teratocarcinoma.

This patient has been followed periodically in outpatient clinic and was last seen September 12, 1966. At this time, he was again asymptomatic with no signs of local recurrence or metastasis. The last thoracic roentgenogram was on September 12, 1966, and showed no new pulmonary metastases.

He is now 33 months since the resection of the pulmonary metastases and has been productively employed as a school teacher since the thoracotomy. The growth of his pulmonary metastasis is plotted in Fig. 1.

Case # 2: This 20-year-old white male was first seen at the EFSCH on February 5, 1964 with the history of having a large right testicular mass resected on January 6, 1963. The removed testis was replaced by embryonal carcinoma. This mass was first observed in September 1963, but was relatively asymptomatic until December. At this time, the patient complained of some lumbar pain and he consulted his physician. The patient was referred to the EFSCH for further treatment one month after the orchiectomy. At the time he was first seen here, he had an epigastric mass which was about 8 cm in diameter. The admission laboratory examinations were all within normal limits. The thoracic roentgenogram showed a nodule in the right perihilar area on admission. Intravenous pyelogram showed displacement of the proximal portion of the right ureter.

During his first admission to EFSCH, the patient received a tumor dose to the retroperitoneal area of 4000r through the anterior and posterior fields over a period of five weeks with telecobalt therapy. The radiotherapy was completed on March 11, 1964. The epigastric mass regressed partially and the pain decreased. The patient was discharged and followed in the clinic. He was re-admitted again to the hospital on June 26, 1964 with a persistent mass and growth of the pulmonary metastasis. A retroperitoneal periaortic node dissection was done under general anesthesia on June 30, 1964 through the transperitoneal route using a midline incision extending from the xyphoid to the pubis. The postoperative course was uncomplicated.

On July 14, 1964, the patient had an exploratory thoracotomy with superior segmental resection of the right lower lobe, excisional biopsy of the lymph node at or on right main stem bronchus and a wedge resection of the right middle lobe. The postoperative course was complicated by pneumonitis of the right lung. This responded well to antibiotic treatment. Because of this man's religious conviction, all operations were performed without blood transfusions.

The patient was then discharged on July 22, 1964.

The pathologist reported metastatic teratocarcinoma to the periaortic nodes and also metastatic teratocarcinoma to the right lower lobe of the lung. The bronchial lymph node contained no cancer. The patient has since been seen periodically in the follow-up clinic and was last seen in the clinic on September 12, 1966. At this time, he showed no evidence of persistent disease. This patient is now alive 28 months since the resection of his pulmonary metastases. The last thoracic roentgenogram was obtained September 12, 1966 and showed no metastases. The growth of the pulmonary metastases before resection is shown in Fig. 1 and 2. He has been gainfully employed since recovery from his last operation.

Metastases of testicular cancer to the retroperitoneal lymph nodes and lungs often can be controlled by the timely performance of orchiectomy, retroperitoneal lymph node dissection and resection of the involved lung. The authors review this subject and present two illustrative cases from Ellis Fischel State Cancer Hospital. Doctor Spratt is Chief Surgeon at EFSCH and Professor of Surgery at the University of Missouri School of Medicine; Doctor Yuen is in his first post-residency year under a Cancer Control Senior Clinical Traineeship Award of the US Public Health Service. Their work was supported in part by USPHS Grant, CA-08023.

Discussion

To place these cases in perspective, the total experience with testicular cancers of the embryonal-teratocarcinoma-adenocarcinoma type has not been great at the EFSCH. From 1940 through 1966, only 41 cases were seen. The mean age was 37 years with a range from 7 to 69 years. All but seven had had the diagnosis confirmed by orchiectomy before referral to the EFSCH. Twenty of the 41 cases were not referred until they had developed generalized metastases and were not candidates for any form of effective therapy. Eight of the 41 were not referred until they had developed very large and locally inoperable retroperitoneal lymph node mestastases. None of them received much measurable benefit from roentgentherapy to the large metastases.

This leaves only 13 cases wherein decisions and treatment at the EFSCH had any influence on the natural history of these cancers. In five instances, no therapy beyond orchiectomy was employed. Four of these patients (three with embryonal cell cancers and one with an adenocarcinoma) are surviving 3, 7, 12 and 26 years after orchitectomy. The fifth patient, one with adenocarcinoma, had an orchiectomy and later developed retroperitoneal metastases of inoperable size between follow-up clinic visits at the EFSCH. This case was seen when the attitude was not in favor of prophylactic retroperitoneal lymph node dissection, and its represents the only case among the 41 which possibly was lost to the disease because of failure to perform timely ablative surgery.

Two received orchiectomy and roentgentherapy to the periaortic and perirenal lymph nodes. Neither case, one with embryonal carcinoma and one with teratoma, had any evidence on physical examination that retroperitoneal lymph nodal metastases were present before radiotherapy. These two cases are alive 12 and 26 years after treatment. This leaves only six cases (two with embryonal cell carcinoma and four with teratocarcinoma) who have had retroperi-

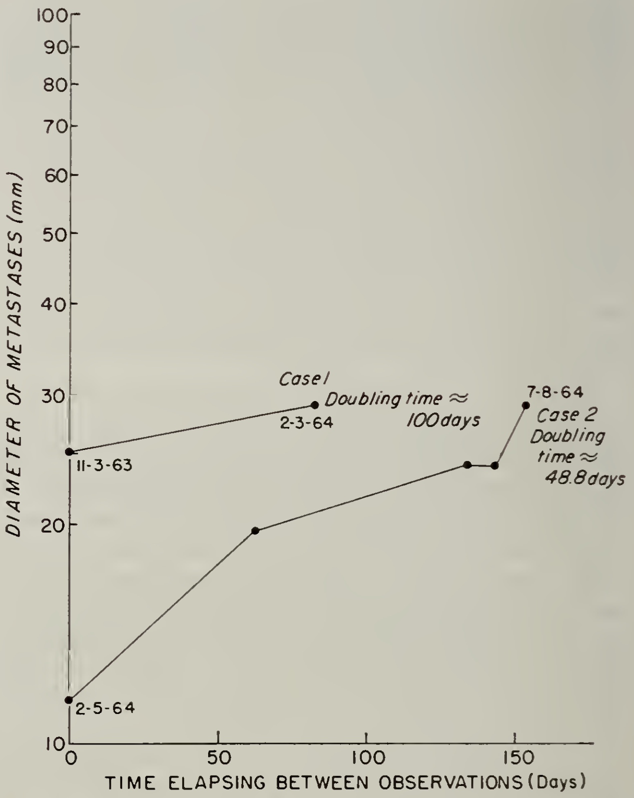

Fig. 1 The diameters of spherical pulmonary metastases measured on the thoracic roentgenograms for the two cases are plotted against the duration between examinations. The average doubling time was calculated according to the method in reference 4.

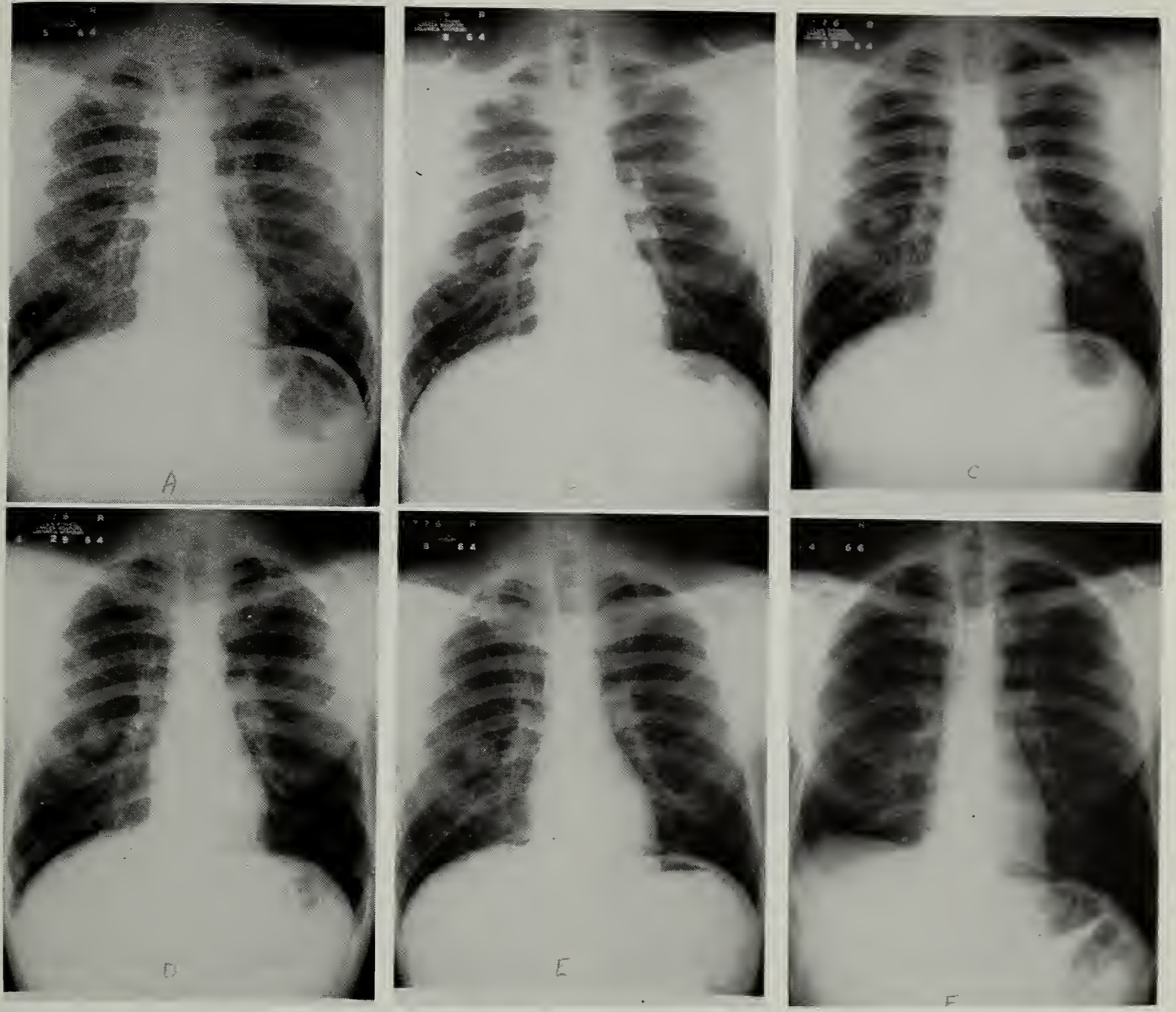

Fig. 2 Thoracic roentgenograms from Case # 2 showing a growing metastasis in the right mid lung field were taken on 2-5-64 (a), 4-8-64 (b), 6-19-64 (c), 6-29-64 (d), and 7-8-64 (e). A roentgenogram taken on 2-14-66 (f) and on 9-12-66 showed clear lung fields.

toneal lymph node dissections. Three with lymph node metastases present died with disseminated cancer 10, 20 and 24 months after the retroperitoneal dissection. Of the three surviving cases, two are the ones reported in this paper and the third is now alive and well 12 years after the performance of a retroperitoneal dissection. In the resected specimen of this 12-year survivor, six lymph nodes contained metastatic teratocarcinoma.

The two cases reported in this paper were seen since the publication by Patton and Mallis in 1959. Based on the convincing evidence in their study, the current policy at the EFSCH is to perform radical orchiectomy with complete removal of the testis and any adherent scrotum and the spermatic cord to the internal inguinal ring for all testicular neoplasms. The cord is cross clamped before the testis is manipulated as a precaution against dissemination.

As a matter of record, all cases should have as a minimum part of their admission studies, anterior-posterior and lateral thoracic roentgenograms, intravenous pyelograms, lymphography of the iliac and retroperitoneal lymph node chains, careful palpatory examination of the groins, abdomen and supraclavicular areas in search for enlarged lymph nodes and a 24-hour urine collection to be analyzed for the output of chorionicgonadotropin. The treatment of the retroperitoneal lymph nodes is delayed until the gross and microscopic pathological study of the removed testis and the results of all of the above studies are available. If the testicular tumor is a seminoma, the periaortic lymph node chain is treated to 3000-3500 rads. Therapy is restricted to the abdomen, unless there is evidence of abdominal, mediastinal or supraclavicular metastases. In the latter case, treatment is extended to include these additional regions. Abdominal therapy alone usually requires five weeks and treatment of the entire lymphatic system to the supraclavicular region requires about eight weeks.

If the testis contains teratocarcinoma, teratoma, embryonal cell carcinoma or adenocarcinoma, a transperitoneal resection of all the lymph node bearing areolar tissue lying between the two ureters in the periaortic, perivena caval and prevertebral area from above the renal veins caudally is performed. The incision extends from the xyphoid to the pubis and the intestines are reflected cephalad after incising the peritoneum lateral to the right colon, around the cecum and along the caudal base of the small intestinal mesentery. The spermatic vessels and internal iliac lymph cord are included on the involved side down to the internal inguinal ring and to the inguinopectineal triangle. This operation is performed prophylactically and without any adjunctive therapy when no evidence of metastases is found with the preoperative studies.

If there is preoperative evidence of retroperitoneal metastases, a course of preoperative roentgentherapy to a tumor dose of approximately 3000-4000 rads is given and the dissection is performed several weeks after the completion of the roentgentherapy. Even if the patient develops disseminated disease at a later date, it is frequently possible to show that he remains free of intra-abdominal disease and does not suffer the awesome complications of untreated retroperitoneal metastases from testicular cancer: enormous retroperitoneal masses with secondary hemorrhage, sepsis, fever, intestinal fistulae, intestinal obstruction and pain. Distinct palliation for many months is obtained frequently in the absence of cure. In the presence of mediastinal, supraclavicular or extensive bilateral pulmonary metastases or with generalized dissemination no palliative surgical operation gives much lasting relief.

If the anatomy of the spermatic cord has not been disturbed by previous surgery, the lymphatics from the testis accompany the internal spermatic artery and vein to the lymph nodes of the perirenal area. However, if previous inguinal surgery has been performed (most frequently inguinal herniorrhaphy varicocelectomy or orchiopexy), the regenerating lymphatics of the spermatic cord establish anastomoses with the inguinal lymphatics. The development of testicular cancers after this occurrence may result in the appearance of ilioinguinal lymph nodal metastases.[2-3] Also, the testicular cancer that becomes so large before resection as to permit the invasion of the scrotum may develop inguinal metastases through the scrotal lymphatics. Should this occur, consideration should be given to the performance of a radical ilioinguinal lymph node dissection as per the technique previously described.[4]

The two cases reported emphasize an important and not widely appreciated aspect in the natural history of testicular cancers. Occasionally, the only metastases occurring beyond the retroperitoneal lymph node filter are one to several discrete metastases in the lung. Graphic plots of the measured growth of the pulmonary metastases in the two cases are shown in Fig. 1. In Case # 1, the mean time required for the metastasis to double its volume was 100.2 days; and in Case # 2, 48.8 days. The mean doubling time for pulmonary metastases from testicular cancer is 48 days with the 95% confidence limit ranging from 10 to 230 days. Thus, the metastases in these two cases were growing at the average speed.

Previously, we have shown that the death of any person with pulmonary metastases is a function of the size of the metastases. The rapidity of death is a function of the speed at which these metastases attain a lethal size. Knowing the size of a metastasis and its rate of growth, it is possible to predict how long the host may expect to survive if the metastasis remains untreated. This "lethal boundary" may be read from the graph published on Page 169 in Vol. 159 (1964) of the *Annals of Surgery*.[5] The metastases in both of these cases were 29 mm in diameter on last measurement. An untreated pulmonary metastasis will generally kill the host before it attains a diameter of 116 mm.[6] From the graph in the *Annals of Surgery*, it can be stated that both hosts had a 95% chance of dying before the volume of their metastases doubled nine more times. For Case # 1, this time is 9 × 100.2 days = 901.8 days or 2.46 years. For Case # 2, this time is 9 × 48.4 = 439 days or 1.2 years. At the present time, these two hosts have lived 2.8 years and 2.3 years respectively since the resection of their pulmonary metastases. In both hosts, the thoracic roentgenograms taken in September 12, 1966 showed no evidence of new pulmonary metastases. Both hosts are grossly free of cancer and are productively employed.

From these observations, it can be stated empirically that protraction of life past 2.46 years for Case # 1 and past 1.2 years for Case # 2 is attributable to the surgical resection of the metastases with greater than a 95% probability of being correct. Since metastases to the lung from testicular cancers can be resected effectively in some instances, follow-up should include periodic thoracic roentgenograms to detect these metastases while they are still small and asymptomatic.

The chemotherapy of disseminated testicular cancer and choriocarcinoma, not amenable to surgical or roentgen ablation, is a special area of therapeutics.

Response has been best with seminomas. The choriocarcinoma has not responded as dramatically in the male as it has in the female. In the female, half of the genetic complement of these trophoblastic neoplasms comes from the father and is foreign to the maternal host. The cancer host relationships are probably not the same from the immunological standpoint in the male and the female. At least two cases of choriocarcinoma in males are reported as being controlled by combinations of surgical ablation and chemotherapy.

Obtaining adequate concentrations of cancer chemotherapy agents in the central nervous system is not presently possible and one of these two cases had a cerebral metastasis resected. The chorionic gonadotropin output decreases when choriocarcinomas respond to treatment. Cases of disseminated testicular cancers are sufficiently rare that each case encountered should be included in one of the national cooperative cancer chemotherapy studies until the problems of drug effectiveness and dosimetry are resolved.[7-10]

SUMMARY

Testicular cancer is generally a disease of robust young men. The metastases of the teratocarcinoma-embryonal carcinoma-adenocarcinoma group to the retroperitoneal lymph nodes and lungs can be controlled with rewarding frequency by the *timely* performance of orchiectomy, retroperitoneal lymph node dissection and the resection of involved lung. Partially because of the youth of these patients, they tolerate a series of major surgical procedures very well and the procedures themselves are not disabling. No operative deaths have ever occurred at the EFSCH after the various definitive surgical procedures utilized in the management of testicular cancers. Seminomas respond well to radiotherapy alone. Other adjunctive measures utilized in the care of these patients have been discussed.

BIBLIOGRAPHY

1. Patton, J. F. and Mallis, N.: Tumors of the Testis. J. Urol. 81:457-461, 1959.
2. Bowles, W. T.: Inguinal Node Metastases From Testicular Tumor Developing After Varicocelectomy. J. Urol. 88:266-267, 1962.
3. Witus, W. S., Sloss, J. H. and Valk, W. L.: Inguinal Node Metastases From Testicular Tumors Developing After Orchiopexy. J. Urol. 81:669-671, 1959.
4. Spratt, J. S. and Spratt, T. L.: Rates of Growth of Pulmonary Metastases and Host Survival. Ann. Surg. 159:161-171, 1964.
5. Spratt, J. S., Ter-Pogossian, M. and Long, R. T. L.: The Detection and Growth of Intrathoracic Neoplasms. Arch. Surg. 86:283-288, 1963.
6. Spratt, J. S., Shieber, W. and Dillard, B. M.: Anatomy and Surgical Technique of Groin Dissection. St. Louis, The C. V. Mosby Company, 1965.
7. Li, M. C., Hertz, R. and Bergenstal, D. M.: Therapy of Choriocarcinoma and Related Trophoblastic Tumors With Folic Acid and Purine Antagonists. NEJM 259:66-74, 1958.
8. Li, M. C., Whitmore, W. F., Golbey, R. and Grabstald, H.: Effects of Combined Drug on Metastatic Cancer of the Testis. J.A.M.A. 174:1291-1299, 1960.
9. Steinfeld, J. L., Solomon, J., Marsh, A. A., Hazen, J. G. and Bateman, J. R.: Chemical Therapy of Patients With Advanced Metastatic Germinal Tumors. Western Cooperative Cancer Chemotherapy Group, Progress Report of January 1, 1963 through December 1, 1965.
10. Pugh, R., Chief of Internal Medicine at the EFSCH and Participant in the Western Cooperative Cancer Chemotherapy Group: Personal Communication, 1966.

Recent medical findings indicate that diabetes "may be a third or fourth or even second leading cause of death" in the U. S. today, according to a leading spokesman for the U. S. Public Health Service. Citing medical research that links heart disease and diabetes as "related diseases," Dr. Glen W. McDonald, Chief of the Diabetes and Arthritis Program, U.S.P.H.S., called it "misleading" to speak of diabetes as the eighth leading cause of death, as it is officially ranked in government mortality statistics.

Addressing the New York Diabetes Association, Dr. McDonald noted that heart disease is the "number one cause of death in the U. S. population," and suggested that "a great many more of these deaths from heart disease in the so-called 'normal' population involve diabetes than is indicated."

REGINALD P. PUGH, M.D. *Columbia*

The Chemotherapeutic Approach to Malignant Disease

More than 20 years have passed since the introduction of nitrogen mustard as a useful chemotherapeutic agent in the treatment of malignant diseases. Subsequently, many other alkylating agents have been synthesized, a few of which have clinically useful human anti-tumor activity, i.e., busulfan for chronic granulocytic leukemia and chlorambucil for chronic lymphocytic leukemia. Other classes of compounds having anti-tumor activity have been added to our therapeutic armamentarium and include antimetabolites (6-mercaptopurine, amethopterin and 5-fluorouracil), antibiotics (actinomycin D), and miscellaneous compounds such as the vinca alkaloids (vincristine and vinblastine). The hematologist has eagerly accepted the application of chemotherapeutic agents to patients with malignant diseases of hematopoietic origin. The acceptance of the efficacy of these agents in the treatment of hematologic malignancies has been widespread among the majority of practicing physicians. Yet, with few exceptions, a cure of any of these malignancies has not been accomplished, although many patients have experienced considerable subjective and objective improvement with probable prolongation of useful life.

Much less enthusiasm among the medical profession at large has been engendered for a chemotherapeutic approach to incurable solid tumor malignancies. Transient hope for a chemical cure of cancer was aroused by the report in 1961 of the medical cure of patients with metastatic trophoblastic tumors associated with pregnancy by the use of Methotrexate.[1, 2] Premature claims for a "cure around the corner" for disseminated malignancies were made, only to be followed by five years of disappointing results in attempting to cure any other form of cancer. Trophoblastic tumors arising from placental parts are unique malignancies in that 50% of their antigenic content is derived from the impregnating male. Therefore, the host harbors a tumor which is a partial homograft. One might postulate that the affected host has some immunologic defect initially in order to permit the growth of a tumor half of whose content is foreign. Perhaps, with the aid of a chemotherapeutic agent, sufficient tumor destruction results that the host is able to sufficiently recognize small residual foci and either inhibit or reject them. Histologically similar choriocarcinomas arising in the male or the non-pregnant female enjoy no better prognosis than other types of tumors arising from the genitourinary tract. Nevertheless, the widely publicized experience with this rather unique tumor has served as a stimulus to many investigators and practicing physicians to consider palliative chemotherapy for many other types of malignancies.

In an excellent review of the current state of anti-cancer drugs, Karnofsky has summarized the present expectations for remission in various types of neoplasms with currently available chemotherapeutic agents.[3] In general, the most frequent and significant remission rates can be expected in malignancies of hematopoietic or reticuloendothelial origin, ovarian and testicular neoplasms, carcinoma of the breast, and childhood tumors including neuroblastoma, retinoblastoma, Wilms's tumor and embryonal rhabdomyosarcoma. Many other tumors have less regularly shown transient responses to various chemotherapeutic agents resulting in subjective and objective improvement, although total duration of life may not necessarily be extended.

The regional use of chemotherapeutic agents also has been explored over the last several years, including intra-arterial routes of administration by perfusion techniques or prolonged infusions, intracavitary routes such as the intrathecal injection of Methotrexate for leukemic meningitis and the instillation of chemotherapeutic agents in the abdominal and thoracic cavities for control of malignant effusions. Chemotherapy as an adjuvant to surgery or radiotherapy remains in the investigative stage with little consistent evidence for improving the total patient salvage. Frequently this therapy has been associated with increased incidence of complications to the primary treatment. Chemotherapeutic agents such as 5-fluorouracil have been applied topically to the skin of patients with certain malignant or premalignant cutaneous abnormalities with early reports of successful management.

The concept of combination chemotherapy such as the "VAMP" treatment for acute leukemia[4] (the simultaneous administration of vincristine, amethopterin, 6-mercaptopurine, and prednisone) has more recently been applied to the therapy of a number of neoplasms. Increased knowledge of the kinetics of tumor cell growth and tumor cell kill,[5] plus preliminary reports of increased remission rates and survival time in patients with acute leukemia prompted extension of this concept. However, combination chemotherapy remains investigative, frequently requires extensive support facilities, and more recently has been associated with the appearance of secondary fatal illnesses such as cytomegalic inclusion disease, probably resulting from the severe immune supression of the host.

SELECTION OF NEW CHEMOTHERAPEUTIC AGENTS

According to the National Advisory Cancer Council of the National Institutes of Health as of mid-1965, 60 chemotherapeutic agents with proven effectiveness to produce complete remission or substantial objective regressions in one or more human neoplasms were then in existence. Twenty-one additional drugs at that time were under human clinical investigation and more have subsequently been added. For every one drug that survives rigid laboratory screening programs, some 2,000 agents or more are discarded. An agent, once selected for human trial, will then be administered to human volunteers with incurable malignancies on a limited basis to establish drug dosage and toxic properties. This trial is called a Phase I study. No effort is made to screen the drug against a large number of human malignancies. Any information gained during a Phase I study concerning the clinical spectrum of a new agent is purely secondary to establishing a drug dosage and its toxic properties. The dosage schedule having been established, the new compound is then subjected to Phase II studies to determine its efficacy against different types of neoplasms. If an agent survives any of the Phase II studies, it is then subjected to various types of Phase III studies which may be directed at comparing the new agent to existing forms of therapy or to determine its ability to alter survival.

In order to promote objectivity in evaluation of a new agent and expedite the assessment of its effectiveness, a number of cooperative investigative groups have been organized. The Ellis Fischel State Cancer Hospital is a member of the Western Cooperative Cancer Chemotherapy Group organized under the auspices of the National Cancer Institute and engages actively in the clinical investigation of new agents or new uses of existing agents. Patients entering these studies must meet the following requirements: (1) have incurable malignancies for which there is no present satisfactory treatment, (2) histologic proof of diagnosis, (3) measurable parameters of disease, (4) no prior therapy with the same agent or, in some cases, its analogues, (5) no chemotherapy within the preceding three to four weeks and (6) evidence of progressive disease following any prior radiotherapy. Certain medical complications and laboratory abnormalities may preclude the use of a certain chemotherapeutic agent. Most importantly, at Ellis Fischel State Cancer Hospital and on the Clinical Research Unit of the Cancer Research Center, the informed written consent of the patient is mandatory. It is imperative that the patient and his family realize the general objectives, risks and limited expectations of the treatment to be utilized. Many studies are conducted wholly, or at least in part, on an outpatient basis; thus, patients are permitted to remain in their own communities as much as possible, and the staff of our institution is able to treat many more patients than otherwise would be possible with our limited facilities. The patient by necessity must have a reliable family physician who is informed of the patient's treatment and aware of possible complications of drug therapy. Drug toxicity will occur in a certain number of patients, causing variable amounts of discomfort and occasionally shortened survival. Justification for exposure of the incurable cancer patient to hazardous medications lies not only in the potential palliation and occasional prolongation of life, but perhaps most important to the individual patient is the knowledge that once he has passed beyond any chance for cure, interest in him has not ceased.

Many types of human malignancies can be palliated by chemotherapeutic agents, resulting in objective and subjective benefit and, not infrequently, prolongation of life. Even when the patient receives no objective benefit, he derives considerable psychological support from the close scrutiny and interest of his physician. However, the decision to treat must be individualized. Doctor Pugh is a member of the staff at Ellis Fischel Cancer Hospital and principal investigator of Grant Number CA 06800-04.

The evaluation of any chemotherapeutic pro-

TABLE 1

Neoplasm	*Agents*	*Comments and Expected % of Responses*
Chemotherapeutic Agents Useful in Neoplastic Disease		
Hematopoietic and reticuloendothelial origin:		
Acute leukemia	amethopterin, 6-mercaptopurine, corticoids, vincristine, cyclophosphamide	80-90% in children, 10-20% in adults, occasional "cures," increased survival
Chronic leukemia		
Lymphocytic	alkylating agents, especially chlorambucil, corticoids	60-80%, increased survival
Myelocytic	alkylating agents, especially busulfan, 6-mercaptopurine	90%, increased survival
Lymposarcoma	alkylating agents, corticoids, vinca alkaloids	40-50%, probably increased survival
Hodgkin's disease	alkylating agents, vinca alkaloids, methylhydrazine	70%, probably increased survival
Multiple myeloma	alkylating agents, especially melphalan	30-40%, suggestive increased survival
Solid tumors:		
Carcinoma of head and neck	amethopetrin, alkylating agents, 5-fluorouracil	15-20%, occasional increased survival
Carcinoma of lung	alkylating agents	30-35%, no increased survival
Carcinoma of gastrointestinal origin (stomach, liver, pancreas and colon)	5-fluorouracil	20-30%, questionable increased survival
Carcinoma of the breast	androgens, estrogens, 5-fluorouracil, alkylating agents	25-35%, increased survival
Carcinoma of the female genitalia		
Ovary	5-fluorouracil, alkylating agents	30-35%, questionable increased survival
Choriocarcinoma of uterus (with pregnancy)	amethopterin, vinca alkaloids, actinomycin D	70-80%, cure
Endometrium	progestins	30-35%, questionable increased survival
Cervix	amethopterin, alkylating agents, vinca alkaloids	10%, increased survival
Carcinoma of testes	actinomycin D, alkylating agents, amethopterin, vinca alkaloids (usually combinations of above)	30-40%, increased survival with 2-3% cures
Carcinoma of prostate	estrogens	70%, probable increased survival
Melanoma	alkylating agents, vinca alkaloids, amethopterin, methylhydrazine	5%, rare increased survival
Tumors of childhood:		
Wilms's tumor	vincristine, actinomycin D	35-45%, increased survival, 2% cures
Neuroblastoma	cyclophosphamide, vincristine, other alkylating agents	70%, increased survival, 3-5% cure
Embryonal rhabdomyosarcoma	vincristine, cyclophosphamide, other alkylating agents, actinomycin D	60-70%, increased survival, 2% cure

Drugs

Generic Name	*Trade Name*	*Generic Name*	*Trade Name*
amethopterin	Methotrexate	melphalan or	
6-mercaptopurine	Purinethol	1-phenylalanine mustard	Alkeran
5-fluorouracil	Fluorouracil	cyclophosphamide	Cytoxan
vinblastine	Velban	triethylenethiophosphoramide	Thio-tepa
vincristine	Oncovin	actinomycin D	Cosmegen
nitrogen mustard	Mustargen	methylhydrazine	Natulan
chlorambucil	Leukeran		
busulfan	Myleran		

gram remains a methodically slow procedure in spite of cooperative efforts being expended. Once any given new chemotherapeutic agent is synthesized or extracted, several years in preclinical trials may follow. Once entering clinical human trials, another several years may be required to determine its clinical effectiveness, or lack thereof, in even a few types of malignancies.

CURRENT USE OF CHEMOTHERAPEUTIC AGENTS

When considering a chemotherapeutic approach to any malignant disease, the clinician must preclude the possibility of a curative surgical or radiotherapeutic procedure. The only exception to date where chemotherapy is the primary curative treatment of choice is that of trophoblastic disease associated with pregnancy. For palliation, chemotherapy should not be used when radiotherapeutic or hormonal treatment is known to be more efficacious, i.e., localized lymphomatous disease and carcinoma of the breast. The clinician must be aware of the individual toxicities of any agent employed and have at his disposal a reliable laboratory to obtain necessary laboratory data.

In spite of proper dosage administration, some patients will develop serious signs of toxicity. However, if their symptoms, signs and laboratory studies have been carefully monitored, drug toxicity will seldom prove fatal. In general, certain clinical situations tend to be associated with increased drug toxicity: (1) greater than one-third loss of body weight due to neoplasm, (2) determination of dosage on the basis of weight markedly in excess of ideal body weight, (3) history of previous extensive radiation therapy resulting in compromised marrow function, (4) previous chemotherapy especially with alkylating agents with incomplete bone marrow recovery, (5) tumor invasion of bone marrow, (6) azotemia or uremia and (7) marked hepatic impairment due to obstruction or replacement by tumor. Chemotherapy in the face of many of these clinical problems can be administered, but the dosage of any particular agent may need to be decreased or the interval between doses increased. For example, one drug particularly useful in the treatment of adenocarcinomas is 5-fluorouracil. The dosage frequently employed is 15 mg/kg daily for four days, followed by 7.5 mg/kg every other day thereafter until toxicity develops. The medication is usually given by rapid intravenous injection. However, if the daily dose is diluted in a liter of 5% dextrose or physiologic saline and administered slowly over several hours, reduced toxicity has been reported without loss of therapeutic efficacy. Other programs resulting in reduced toxicity of 5-fluorouracil include reduction of the daily dosage to 10-12 mg/kg or increasing the interval between individual doses, i.e., once weekly.

Some of the chemotherapeutic agents currently in use for specific neoplasms are reviewed and the approximate objective response rates are given in Table 1.[3, 6-10] Dosage schedules have been omitted since the administering physicians will wish to select the schedule most appropriate for his patient after examining the literature on any particular chemotherapeutic agent. In general, patients who have responded well to previous forms of therapy seem to enjoy the best chemotherapeutic responses.

The time to administer a chemotherapeutic agent to a patient with known residual malignancy is often difficult to select. Presently, there seems to be little indication to give chemotherapy to an asymptomatic patient without objective parameters of disease. Also, awaiting the administration of chemotherapeutic agents until the patient is moribund will seldom be rewarded with significant remission and frequently is associated with markedly increased drug toxicity. If such patients are treated, it is probably best to decrease or fractionate the dose of any agent selected. Ideally, the best candidates for chemotherapy are mildly symptomatic patients with early measurable disease, whose life expectancy is at least three months or more. The time to response from the institution of therapy may well vary from a few days to several weeks. Therefore, particularly in the treatment of solid tumors, the rapid switching from one agent to another is to be discouraged not only because a drug may be discontinued which would eventually be of value, but also because of accumulative drug toxicity.

In summary, many types of human malignancies can be palliated by chemotherapeutic agents, resulting in objective and subjective benefit and, not infrequently, prolongation of life. Sufficient experience has been accumulated with these agents to justify their incorporation into the standard management of many neoplasms. Even when the afflicted patient receives no objective benefit, he derives considerable psychological support from the close scrutiny and interest of his physician. This concept is in no way an advocation for the use of hazardous medication in patients whose disease is known to be

(Continued on page 992)

ROBERT L. GLASS, M.D., *Columbia*

Urinary Retention After Abdominoperineal Resection of the Rectum in Male Patients

ADENOCARCINOMA OF THE RECTUM is a common malignancy in men and abdominoperineal resection is the preferred treatment for most of these lesions. Urinary retention after abdominoperineal resection in males is a major cause of postoperative morbidity.[1] The operation is usually done in an age group having a high incidence of prostatic hypertrophy. The surgical interruption of pelvic nerves[2] and extensive dissection immediately adjacent to the lower urinary tract[3] is associated with at least temporary inability to void in most patients recovering from abdominoperineal resection.[4] The use of an indwelling catheter is necessary and is associated with an incidence of urinary tract infection which occasionally results in prolonged morbidity and an occasional death years later.

Some authors have proposed doing a perineal prostatectomy at the same time as the abdominoperineal resection in selected patients to avoid some of these problems,[5] while others feel that the necessity for prostatectomy cannot be determined for one to two months.

MATERIAL

One hundred and forty-seven abdominoperineal resections done on male patients at the Ellis Fischel State Cancer Hospital between 1940 and 1960 were reviewed. The purpose of the study is to determine the natural history of the urinary tract problems in these patients and develop a rational approach to management.

Only two percent of the patients were lost to follow up and the eight patients followed less than six months were voiding well when last seen.

TABLE 1

PERSISTENT URINARY RETENTION AFTER REMOVAL OF FOLEY IN THE FIRST MONTH AFTER ABDOMINOPERINEAL RESECTION

Total Patients	*Required Prostatectomy*	*Ultimately Voided Well Without Prostatectomy*
24	10 (42%)*	14 (58%)

* Three prostatectomies done in first postop month.

DISCUSSION

The indwelling catheter routinely inserted at the time of surgery was usually removed on the seventh postoperative day. Twenty-four patients had urinary retention after removal of the Foley catheter and required recatheterization during the first postoperative month (Table 1). Fourteen of these patients ultimately voided well without prostatic surgery. Most patients who had urinary retention in the early postoperative period will regain satisfactory bladder functions within six weeks of their abdominoperineal resections without prostatectomy. One patient spontaneously regained normal function six months postoperatively.

The results of those prostatectomies done in the first month after abdominoperineal resection (Table 2) suggest that three of these might have been unnecessary had several weeks been allowed for further return of neuromuscular function of the bladder.[4] The post-abdominoperineal course of those patients who had had previously successful prostatectomies (Table 3) showed an incidence of urinary complications similar to the whole group.

Table 4 gives the data on those patients who had prostatectomies more than one month after their abdominoperineal resection. Eleven of these patients developed symptoms of bladder neck obstruction after a variable period of satisfactory voiding. Two patients never voided satisfactorily after surgery and had prostatectomies in the sec-

TABLE 2

PATIENTS HAVING PROSTATECTOMY IN THE FIRST MONTH AFTER ABDOMINOPERINEAL RESECTION

Total Patients	*Voided Well Immediately Post Prostatectomy*	*Required 3-4 Weeks Post Prostatectomy To Void Well*
4	1	3

TABLE 3

Patients Having Prostatectomy
Before Abdominoperineal Resection

No postop symptoms	4
Transient retention	1
Persistent infection	1
Persistent incontinence	1
Total	7

ond and third month after abdominoperineal resection. It is noteworthy that those patients developing obstructive urinary symptoms coincident with pelvic recurrence of their cancer did not benefit from prostatectomy. Of the five patients with recurrent cancer, the symptoms of obstructive uropathy were the first symptom of recurrent cancer. In three of these five, recurrent cancer could not be detected at the time of the prostatectomy, but became apparent one to two months after prostatectomy.

An attempt to predict those patients most likely to develop major urinary tract complications after abdominoperineal resections was made on the basis of preoperative symptoms (Table 5). The patients classed as having minimal urinary symptoms, either had no symptoms preoperatively or nocturia once or twice. Those patients with nocturia three times or more and/or other symptoms such as retention, dribbling, dysuria and hesitancy were classified in the second group of patients considered to have major preoperative urinary symptoms. No significant difference in the number of prostatectomies after abdominoperineal resection is noted between these two groups. A sub-group of those patients with major urinary symptoms before surgery are those patients who clearly date the onset of their urinary symptoms as coinciding with the onset of rectal symptoms due to cancer (Table 6). These patients had a remarkably benign postoperative course in spite of several having had severe urinary symptoms in the period before abdominoperineal resection.

Results of a review of 147 abdominoperineal resections done on male patients between 1940 and 1960 with the purpose of determining the natural history of the urinary tract problems in these patients and developing a rational approach to management. Doctor Glass is an attending surgeon at Ellis Fischel State Cancer Hospital, Clinical Assistant Professor of Surgery at the University of Missouri Medical School and in the private practice of surgery in Sedalia.

TABLE 5

	Minimal Urinary Symptoms Preop*	*Major Urinary† Symptoms Preop*
No prostatectomy	72	51
Prostatectomy:		
Preop	5	2
1st month postop	3	1
2-3 months postop	3	1
	8%	10%
3rd month postop +	4	5
Total	87	60

* 0-2—nocturia without other urinary symptoms.
† 3—nocturia and/or other urinary symptoms.

Conclusion

1. Spontaneous return of bladder function after abdominoperineal resection may not occur until as long as three months postoperatively and

TABLE 4

Prostatectomies Done More Than One Month After Abdominoperineal Resection

	Number of Patients	*Satisfactory Result From Prostatectomy*	*Unsatisfactory* Result From Prostatectomy*
Benign bladder neck obstruction	8	7	1 (12.5%)
Recurrent pelvic cancer with bladder neck obstruction	5	0	5 (100%)
Total	13	7	6

* Either total incontinence or continued retention.

in general prostatectomy should not be done sooner.

2. The late development of symptoms of bladder neck obstruction after abdominoperineal resection may be the first symptom of pelvic recurrence of the cancer. These patients do poorly with prostatectomy.

TABLE 6

ONSET OF URINARY SYMPTOMS COINCIDENT WITH RECTAL SYMPTOMS

No urinary problem postop	20
Transient retention (no prostatectomy)	3
Persistent symptoms*	1
Total	24

* Hesitancy, frequency, dribbling, prostatectomy not felt to be indicated.

3. On the basis of preoperative symptoms, we were unable to predict those patients who would require prostatectomy postoperatively and thus might benefit from a prostatectomy at the same time as their abdominoperineal resection.

4. Major urinary symptoms associated with rectal cancer symptoms may be relieved by abdominoperineal resection.

BIBLIOGRAPHY

1. Cook, E. N., Tencote, Hewicus, W. and Potter, Wilfred M.: Urinary Retention Following Operations on the Bowel. J. Urol. 89:255, 1963.
2. McCrea, L. E. and Kimmel, D. L.: New Concept of Vesical Innervation. Relationship of Vesical Innervation to Bladder Management Following Abdominoperineal Proctosigmoidectomy. AMA Arch. Surg. 66:84, 1953.
3. Campbell, E. W. and Gislason, J.: Urologic Invalidism Following Abdominoperineal Rectosigmoidectomy. Am. Surg. 132:85, 1950.
4. Cunningham, Edward F., Jr. and Young, Glen A.: Bladder Dysfunction Following Abdominoperineal Resection. Am. Surg. 28:56, 1962.
5. Leadbetter, G. W. and Leadbetter, W. F.: A New Approach to the Problem of Urinary Retention Following Abdominoperineal Resection for Carcinoma of the Rectum. Surg., Gynec., & Obstet. 107:333, 1958.

Chemotherapeutic Approach to Malignant Disease (Cont'd)

refractory to a chemotherapeutic approach. The decision to treat must be individualized, and the recipients of these agents must be sufficiently well informed to alert the physician to early symptoms of toxicity.

BIBLIOGRAPHY

1. Hertz, R., Bergenstal, D. M., Lipsett, M. B., Price, E. B. and Hilbish, T. F.: Chemotherapy of Choriocarcinoma and Related Trophoblastic Tumors in Women. JAMA 168:845-854, 1958.
2. Hertz, R., Lewis, J. L. and Lipsett, M. B.: Five Years Experience With Chemotherapy of Metastatic Choriocarcinoma and Related Trophoblastic Disease in Women. Proc. Am. A. Cancer Res. 3:235, 1961.
3. Karnofsky, D.: Problems and Pitfalls in the Evaluation of Anticancer Drugs. Cancer 18:1517-1528, 1965.
4. Freireich, E. J. and Frei, E., III: Recent Advances in Acute Leukemia, in Progress in Hematology. New York and London, Grune and Stratton, 1964, vol. 4, pp. 187-202.
5. Skipper, H. E., Schabel, F. M., Jr. and Wilcox, W. S.: Experimental Evaluation of Potential Anticancer Agents XIII. On the Criteria and Kinetics Associated With "Curability" of Experimental Leukemias. Cancer Chemotherapy Rep. 35:1-111, 1964.
6. Jobe, R. and Evans, A. M.: Cancer Chemotherapy: Application and Perspectives. Missouri Med. 61:1024-1028, 1964.
7. Dameshek, W., Necheles, T., Finkel, H. and Allen, D.: Therapy of Acute Leukemia, 1965. Blood 26:220-225, 1965.
8. Frei, E.: Progress in Treatment for the Leukemias and Lymphomas. Cancer 18:1580-1584, 1965.
9. Sutow, W. W.: Chemotherapy in Childhood Cancer (Except Leukemia). Cancer 18:1585-1589, 1965.
10. Frei, E. and Gamble, J. F.: Progress in the Chemotherapy of Hodgkin's Disease. Cancer 19:378-384, 1966.

The Bureau of Narcotics, U. S. Treasury Department, reports that there were 2,503 thefts of narcotic drugs from all classes of persons registered under the Federal narcotic law during the 12 month period ending December 31, 1965. This is the largest number of thefts ever reported in a single year. Standards of safeguarding narcotics are set out in the Bureau Order No. 213, which is available upon request. Henry L. Gioardano, Commissioner of Narcoties, suggests that physicians consult his office in Washington, D. C. or their local Narcotic District Supervisor when in doubt regarding safeguards or when moving narcotic stocks to a new location.

RUHERI PEREZ-TAMAYO, M.D. *and*
MERCEDES SOBERON, M.D., *Columbia*

Clinical Application of Computer Research in Multifield Telecobalt Beam Therapy

IN AN EARLIER PUBLICATION[1] on the use of digital computers in Radiation Therapy, we explained:

"Some radiologists with a strong feeling for science fiction are inclined to believe that a digital computer is either the monster of Frankenstein or a complicated thinking robot with supernatural brains over and above that of Einstein. Those with less imagination consider computers exotic and sophisticated slide rules or glorified desk calculators, not superhuman but with magic powers. At any rate, they refuse to explore the use of an excellent tool for research because it is assumed that an enormous background of mathematics and electronics is indispensable. Of course, this is far from the case just as it is not necessary to be an expert electrical engineer to turn on the light in the living room. Computers may be put to use by people with all shades and grades of mathematical experience and ability.

Before going any further, it is important to discourage the popular analogy made between computers and the human brain. If any such comparison between machines and men has to be made, these 'thinking machines,' 'electronic brains' or supernatural electronic geniuses are only competent idiots, loyal followers, tireless clerks, supernaturally speedy slaves, but they are brainless at best. They can do nothing by themselves; they are devoid of intelligence; their 'supernatural' power is simply electronic and consists in carrying on arithmetical operations at fantastic speed at the command of thinking men. Literally speaking, computers are pure machines that follow simple, successive, coded instructions to solve cut and dried problems which have been predigested by men. Although brainless, it would be ludicrous to underestimate their unparalleled assistance and kind help. They can perform millions of tedious calculations in a matter of minutes. They are breaking the calculation barrier in research and the crucial limiting factor of time. What would have involved months and lives of tedious tasks (sometimes impossible mathematical propositions), now can take minutes, hours or days of computer time.

"Once the undeserved science fiction reputation of 'a brain' is taken away from computers and the machine is left in its proper place and perspective, a number of extremely important medical applications will become more evident. At the present time, computers are being used as unique medical aids in hospital information-retrieval systems, clinical laboratory control techniques, medical records filing and circulation, diagnostic assistance and radiology."

The purpose of this publication is to report the clinical application of the research in progress by the Clinical Department of Radiation Therapy at Ellis Fischel State Cancer Hospital. Sponsored by the Cancer Research Center of Columbia and the United States Public Health Service, the Department has been able to apply the computer, available in its treatment planning room, as a tool in the areas of research, education and service.

Examples of the present research avenues with immediate clinical application will be mentioned. In the field of education, residents in training learn to use the computer in a matter of days. They begin to accumulate experience while applying in clinical practice the aid of the latest computational equipment available to the radiotherapist. The technical aspects of the treatment of cancer patients by radiation can now be selected from numerous treatment plans. The collection of treatment plans is continually being enlarged with time and experience. Libraries of predetermined dose distributions are available and continue to be produced in the department.

The individual cancer patient, however, also is subject of special study. His treatment planning is completed in less than one hour and, in a few minutes, a final dose distribution can be plotted. Physicians in training are encouraged to resort to the individual evaluation of the optimum technical treatment modality to gain experience and assess the various effects of the parameters involved in radiation treatment planning. In the early days of radiation dosimetry, only a limited number of isodose charts were drawn for typical medical problems. Progress in

An interesting report on still another practical and valuable application of the high speed calculations of the digital computer. The authors describe how the computer is being used as a tool in medical research, education and service at Ellis Fischel Hospital. They place special emphasis on the work being done in the field of cancer radiotherapy and the search for an optimum treatment modality when more than one approach is possible. Doctor Perez-Tamayo is Chief of Radiotherapy at EFSCH and Professor of Radiology at the University of Missouri School of Medicine. Doctor Soberon resides in Columbia. Their investigation was supported in part by U. S. Public Health Grants CA-06676-0151 and CA-08023-02.

physics and clinical equipment made room for more exact dosimetry. At present, digital computers are used to produce any number of dose distributions when fixed fields or moving beam therapy are needed in clinical practice. Previous limitations imposed by numerous, tedious and time consuming calculations are no longer a problem. Today it is not only possible to compute numerous individual dose distributions for a variety of treatment modalities, but it is also possible to predetermine extensive collections of isodose distributions for general use.

An important application of digital computers in the field of radiotherapy is the search for an optimum treatment modality when more than one approach is possible. This optimum method results from the analysis of either individual dose distributions constructed for the specific characteristics of one particular patient or for an ideal and general problem subject to general use. In any case, although many isodose charts are required for either type of analysis, their computation is no longer laborious or time consuming and is simply done with computers.

Cohen[2] divides clinical dosimetry into four stages: topography, planning, treatment and reconsideration. Topography includes those procedures related to clinical, laboratory and physical studies which permit the assessment of the location of the tumor, its size and position within the body frame of the patient. For a tumor area of known size, shape and position, it is possible to determine the specific values of the basic variables required to produce the optimum dose distribution with a useful treatment area that will enclose the lesion adequately.[3]

Body sections may be "idealized" in regular circles or ellipses of equivalent physical dimensions, but frequently are taken from the patient by various methods. The target area in the body section includes the lesion in the principal plane and, in our work, corresponds to the area enclosed by the 80% isodose line. This indicates that the maximum dose in the lesion is never more than 100% and that the minimum dose is 80% of the given amount of radiation. The lesion is, therefore, enclosed by a "dose plateau" with a homogeneous dose intensity between 80 and 100%. The ideal dose distribution for any treatment modality tends to enclose the target area within the dose plateau, beyond which the dose decreases very rapidly, sparing the other healthy tissues from high doses.

Since the aim of radiotherapy is to include the target area within a high and homogeneous plateau, excluding all other tissues, the most important knowledge needed to select the best treatment modality is the location and extension of the lesion in consideration. Extensive disease implies large target areas and big fields; lesions located deep, relatively circumscribed, call for more than a one field arrangement to minimize the dose outside the target area while increasing the intensity delivered to the lesion. The single field or the tangential opposing pair may be used to treat superficial lesions without irradiating uninvolved, underlying tissues. Wedge fields permit cross-firing of center target areas, utilizing less area of the body section to reach the lesion, e.g., the lesion of the maxillary sinus requires only two wedge fields entering the affected quadrant of the head section, instead of three or more fields entering the section through more than one quadrant. Either multiple beam therapy or combinations of wedge fields are indicated when deep lesions of the chest and pelvis are halfway distant between the geometric center and the surface, e.g., bladder, rectum, mediastinum. Moving beam therapy of the circumaxial and perpendicular type may be substituted for other modalities in the treatment of moderately eccentric target areas. It is particularly indicated in centrally located, well circumscribed lesions. From the general indications mentioned above, it could be said that considerable overlap of treatment modalities exist for most treatable lesions.

Nevertheless, an optimum treatment plan may be selected and the procedure remains practical if a digital computer has been programmed accordingly. The next paragraphs will describe in brief our method of calculation.

At Ellis Fischel State Cancer Hospital, separate programs were written for coplanar multiple fixed field distributions and for planar rotation. The program for stationary fields calculates the dose at each point of a rectangular grid spaced one-half inch apart in both directions. It sums the doses produced by the individual fields, normalizes each dose of the principal plane to a percentage of the highest dose in the cross-section and interpolates in decades from 10 to 100 to locate isodose lines. The program for moving beam therapy first uses the same methods to compute the doses produced by a single field at the points of a polar coordinate grid with intervals of ten degrees of arc and one centimeter along the radius. It then simulates rotation by assuming a number of stationary fields at ten degree intervals along the arc of rotation and adding the doses for these fields in the plane of rotation. It normalizes and interpolates these values to find the resultant isodose lines. This program does not have the same degree of accuracy, but is more efficient for simple rotation. Our studies have proved that it is sufficiently adequate for practical purposes.

Both programs make use of mathematical formulations rather than actual measured dose values to compute the depth doses produced by an individual field. The tissue-air ratio is found for the depth of the point below the surface. This is multiplied by the inverse square factor and by an "off-axis" factor which relates the dose at any point in the beam to the dose at the same depth along the axis or central ray.

The correction for body shape does not demand data on the entire contour, but considers the local shape of the contour at the entrance of each field. The coordinates of the central ray of the incident beam at the entrance point, along with the approximate angles of the surface to the beam axis, are given for each field. The program calculates the actual depth of each point in the body along the principal plane of the beam, assuming straight line surfaces at these angles. The use of the tissue-air ratio allows an adequate correction for the shape of the cross-section at the surface and is applicable to every source-skin distance.

Interpolation is carried out between each adjacent pair of points both horizontally and vertically. If an isodose line of the desired values passes between these points, its intersection with the grid line is plotted. A symbol corresponding to the value of the line is located in the appropriate place on the output plot. If more than one line falls between two points, all lines are plotted.

The program for moving beam therapy does not make individual corrections for the actual depth of each point for each field. It computes a basic grid for a cylindrical phantom with circular contour of 15 cm radius and rotates this basic grid to different positions to simulate various field positions. Summing is carried out every ten degrees and rotation is represented by a series of equal beams, with half-weight beams at each end. (For example, a 220° rotation is simulated with 23 beams at 10° intervals, 21 of which have full weight, and the end two have half weight.)

Corrections for non-circularity are made in the form of "mu" factors for each radius, multiplying the entire grid by a factor corresponding to a lack or excess of tissue along the radius that is overlapped by the central ray. This approximation corrects for the variable thickness along the central ray, but not for the thickness off the central ray produced by angle of incidence or irregular contour. Such detailed approximation is only needed when large fields, small angle of rotation or extreme off-center axis of rotation become necessary. This is seldom the case. The regular program calculates distributions for partial, full rotation, skip rotations and combinations of moving beam and stationary fields if all fields are concentric.

Interpolation is again carried out in two directions and the results plotted directly. Both programs also produce numerical data that, when used on the distribution, express the dose requirements in terms of the given dose per field, the dose at the 80% line when the point of highest dose receives 100 rads and the dose to this point when the dose at the 80% is 100 rads.

The total distribution plotted for multifield treatment will help to illustrate the previous comments. (See Fig.)

The information in the left upper corner includes four lines of identification. The numbers 24 × 19 stand for the size in half inches of the area plotted. The field column lists the assigned number to each field; the weight column adds up to either 100 or 1,000 and indicates the relative proportion of dose given to each field to produce the dose distribution plotted. The columns of length and width specify the size of the fields in cm, e.g., field 1, *4.5* × 12.000. The fifth and sixth columns indicate the obliquity encountered by the incident beam at the surface. For convenience, the contour of the cross section at the incident surface is simplified by two straight lines that divide the profile of the surface in two halves. Each half represents the right or left portion of the profile from the central ray of the beam to the corresponding edge; the angle between the "obliquity line" and the perpendicular to the central ray is measured in degrees and is positive or negative if the angle is above or be-

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DOE, John
Prostate
Plan 7 -- Four Fields , Unequal Weights
2-26-66

  24 x   19
FIELD WEIGHT  LENGTH   WIDTH  OBL. 1  OBL. 2   X      Y  ANGLE SSD

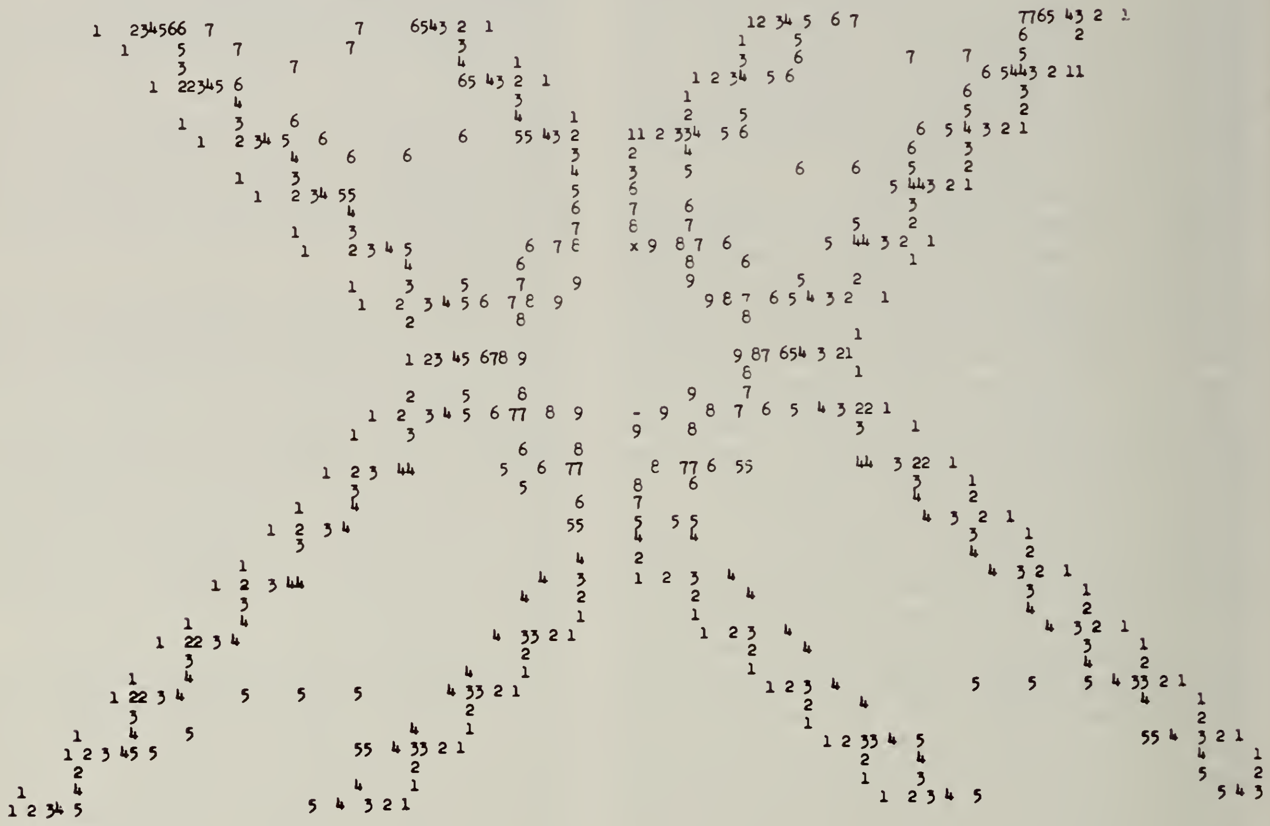
   1   300    4.500   12.000 -   37     37    81    102   47   80

   2   300    4.500   12.000    45  -   45 -   88    102  135   80

   5   200    5.000   12.000 -   45     45 -  108  -   98  225   80

   6   200    5.000   12.000    45  -   45   112  -   96  317   80

 427 at max
 343 at 80 per cent
Give
   0.234 x wt. for 100 max
   0.292 x wt. for 100 at 80 percent
For
 5000 at 80 per cent, give
 4380,   4380,   2920,   2920,  14600 Total
```



low that perpendicular. Columns X and Y indicate the coordinate distances of the point of incidence in a Cartesian system. The angle of incidence of the beam is listed in the angle column and the SSD for each field is registered in the last column. All other lines in the information establish the computed maximum dose resulting from the contribution of all intersecting fields when the total given dose is 1,000 roentgens, e.g., 427; the dose at the 80% line for the same amount, e.g., 343; the given dose per field to deliver 100 at the maximum or at the 80% line, e.g., 0.234 × weight or 0.292 × weight, respectively, and the given dose required per field to deliver 5,000 rads at the 80% line, e.g., field one: 4,380 r, etc. All digits in the plotted chart stand for the corresponding decade of isodose lines from 10 to 100%.

Bibliography

1. Perez-Tamayo, R.: Digital Computers in Radiation Therapy. In Progress in Radiation Therapy, Volume III. New York and London, Grune and Stratton, 1965, pp. 68-91.

2. Cohen, M.: The Organization of Clinical Dosimetry. Acta Radiology, Volume 4 (1966), pp. 233-255.

3. Perez-Tamayo, R.: Analysis and Determination of Variables for Optimum Dose Distribution in Moving Therapy. To be published in Proceeding of the Fall Conference on Research in Radiotherapy and Radiobiology, November, 1965.

GALEN B. COOK, M.D. *and*
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The Geographic Locations of Missourians With Multiple Cancer

IF THE DISTRIBUTION OF CANCER among the different counties of Missouri were known, one might learn some interesting information about the disease. For two reasons, Missouri is a particularly attractive geographic area to study. First, this state is one of the few with a hospital solely oriented toward neoplasia. The Ellis Fischel State Cancer Hospital (EFSCH) has an excellent patient record collection which today extends over 25 years and includes 30,000 experiences with cancer. Second, although the geographic district designated "Missouri" is a single political entity, there are within it several distinctly different environments. During the years of this study, these environments were not distorted by rural-to-urban migration to the degree found in many states and, therefore, our population may be considered to have some degree of environmental "purity" among its components.

Today, we know of no way to determine the exact local prevalence of cancer in Missouri. No statewide cancer registry exists; no law requires all cancers to be reported; and no single hospital treats all cases. How then might one solve the riddle of Missouri's geographic distribution of cancer?

There is a popular belief that persons with cancer who are salvaged are more likely to develop second cancers. Apparently this is incorrect. Spratt *et al* recently have shown that persons with one cancer are neither more nor less susceptible to develop second cancers of *independent* body tissues than persons who have never had the disease.[1] If this be true, then the number of persons with *second* primary cancers among a population with single cancers should be similar in ratio to the number of *first* cancers among a cancer-free population. Thus, a description of the distribution-of-residence of persons developing second cancers within a cancer population may be a means to infer the distribution-of-residence of persons developing single cancers within a healthy population.

METHOD AND MATERIALS

Missouri's total population is approximately 4.5-million. From this group we have taken a sample—32,000 indigent Missourians who have been patients at the Ellis Fischel State Cancer Hospital to October 23, 1963. Seventy-five percent of this sample had cancer. Seven hundred and five had second primary cancers, which are neither metatastic from the patient's first cancer nor independent neoplasms of identical type to the first. These second primary cancers are in no evident way related to the cancers that preceeded them.

The EFSCH population is relatively stable so that any environmental effect may have meaning for the population from which it is drawn. Forty-six percent of the multiple cancer patients have

The geographic distribution of persons with single cancer in Missouri is unknown. Attempting to substitute for this missing information, the place of residence of Ellis Fischel State Cancer Hospital patients with multiple cancer is mapped. Counties having higher prevalence of multiple cancer are found to agglomerate. Possible causes for the clumping and possible future studies are discussed by the authors. Doctor Cook is from the Department of Surgery, Ellis Fischel State Cancer Hospital, and Advanced Clinical Fellow, American Cancer Society. Doctor Watson is from the Department of Biostatistics, Ellis Fischel State Cancer Hospital, and Research Statistician, Cancer Research Center, Columbia. The advance research for their paper was supported in part by an Institutional Grant of the American Cancer Society (Washington University School of Medicine), United States Public Health Service Grant CA 08023-01 and National Science Foundation Grant G-22296.

TABLE 1

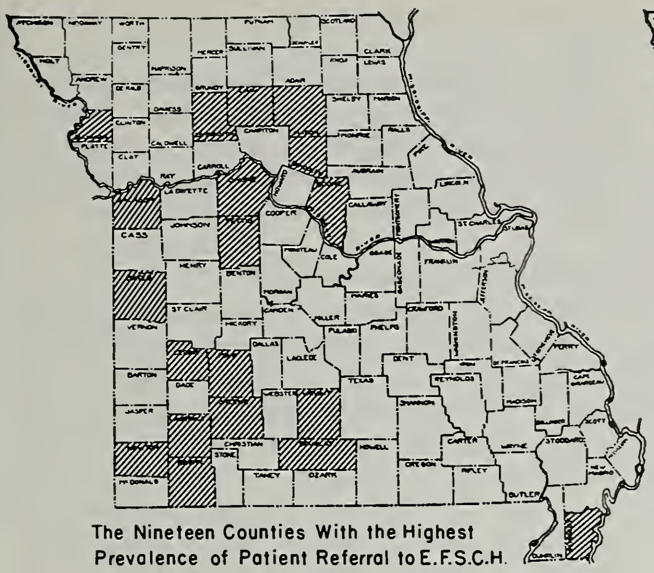
County	*Column 1**	*Column 2†*	*Column 3‡*	*Column 4§*
Adair	.95	1.98	2.08	14
Andrew	.16	.42	2.63	3
Atchison	.29	.14	.48	1
Audrain	1.23	.99	.80	7
Barry	1.88	1.56	.83	11
Barton	.44	.42	.95	3
Bates	1.59	2.12	1.33	15
Benton	1.00	.85	.85	6
Bollinger	.08	.14	1.75	1
Boone	2.18	3.12	1.43	22
Buchanan	1.95	1.56	.80	11
Butler	.83	.14	.17	1
Caldwell	.51	.42	.82	3
Callaway	1.34	1.70	1.27	12
Camden	1.26	.70	.55	5
Cape Girardeau	.23	.14	.61	1
Carroll	.87	1.13	1.30	8
Carter	.16	.0	.0	0
Cass	.59	.28	.47	2
Cedar	1.75	1.70	.97	12
Chariton	.94	.99	1.05	7
Christian	.63	.85	1.34	6
Clark	1.04	.28	.27	2
Clay	.53	1.13	2.13	8
Clinton	.55	.56	1.02	4
Cole	.66	1.27	1.92	9
Cooper	.71	.85	1.20	6
Crawford	.61	.28	.46	2
Dade	.45	.14	.31	1
Dallas	1.27	.85	.67	6
Daviess	.60	.85	1.42	6
DeKalb	.17	.42	2.47	3
Dent	.36	.14	.38	1
Douglas	1.89	.28	.15	2
Dunklin	1.01	.56	.55	4
Franklin	.38	.85	2.24	6
Gasconade	.29	.14	.48	1
Gentry	.31	.0	.0	0
Greene	2.53	3.40	1.34	24
Grundy	1.36	.70	.51	5
Harrison	.69	.28	.41	2
Henry	1.35	1.13	.84	8
Hickory	.78	.42	.54	3
Holt	.23	.0	.0	0
Howard	.99	1.56	1.58	11
Howell	1.20	1.41	1.18	10
Iron	.12	.0	.0	0
Jackson	1.37	2.69	1.96	19
Jasper	3.90	2.83	.73	20
Jefferson	.17	.0	.0	0
Johnson	.64	.56	.88	4
Knox	.59	.28	.47	2
Laclede	1.25	1.41	1.13	10
Lafayette	.98	1.27	1.30	9
Lawrence	1.50	2.12	1.41	15
Lewis	.61	.56	.92	4
Lincoln	.28	.28	1.00	2
Linn	1.37	1.27	.93	9
Livingston	1.59	1.84	1.16	13
McDonald	1.01	.85	.84	6
Macon	2.09	2.41	1.15	17
Madison	.15	.14	.93	1
Maries	.29	.28	.97	2
Marion	.79	.85	1.07	6
Mercer	.57	.56	.98	4
Miller	1.33	1.13	.85	8
Mississippi	.85	.99	1.16	7
Moniteau	.63	.28	.44	2
Monroe	1.03	1.14	1.11	8
Montgomery	1.33	.99	.74	7
Morgan	.78	.57	.73	4
New Madrid	.74	.0	.0	0
Newton	1.62	1.56	.96	11
Nodaway	.42	.28	.66	2
Oregon	1.32	.42	.32	3
Osage	.32	.14	.43	1
Ozark	.72	.42	.58	3
Pemiscot	3.57	2.12	.59	15
Perry	.07	.0	.0	0
Pettis	1.90	1.42	.74	10
Phelps	.98	1.14	1.16	8
Pike	.82	.70	.85	5
Platte	.14	.28	2.00	2
Polk	1.56	.85	.54	6
Pulaski	1.07	1.14	1.06	8
Putnam	.51	.56	1.09	4
Ralls	.64	.56	.87	4
Randolph	2.04	.99	.49	7
Ray	.89	1.27	1.42	9
Reynolds	.19	.28	1.47	2
Ripley	.56	.0	.0	0
St. Charles	.21	.14	.66	1
St. Clair	1.18	1.27	1.08	9
St. Francois	.74	.70	1.05	5
Ste. Genevieve	.04	.0	.0	0
St. Louis	.06	.0	.0	0
Saline	1.50	2.12	1.41	15
Schuyler	.30	.42	1.40	3
Scotland	.36	.42	1.16	3
Scott	.61	.42	.69	3
Shannon	.42	.0	.0	0
Shelby	.64	.70	1.09	5
Stoddard	.31	.14	.45	1
Stone	.53	1.14	2.15	8
Sullivan	1.21	.99	.82	7
Taney	.48	.42	.88	3
Texas	1.31	.85	.65	6
Vernon	.88	.85	.96	6
Warren	.26	.14	.54	1
Washington	.16	.28	1.75	2
Wayne	.28	.14	.50	1
Webster	.67	.70	1.04	5
Worth	.05	.14	2.80	1
Wright	2.76	.85	.31	6
St. Louis City	.07	.14	2.00	1

* Admission Prevalence.

† Multiple Tumor Prevalence.

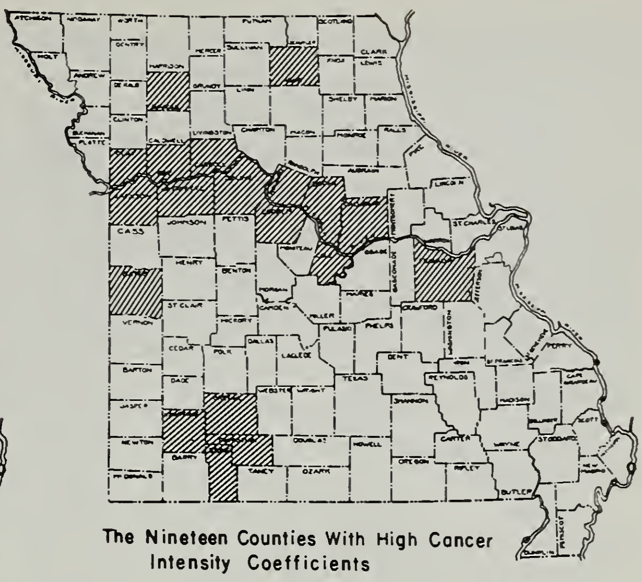
‡MTP/AP (Cancer Intensity Coefficient).

§ Number of Multiple Cancer Patients.



The Nineteen Counties With the Highest Prevalence of Patient Referral to E.F.S.C.H.

Fig. 1



The Nineteen Counties With High Cancer Intensity Coefficients

Fig. 2

remained their entire lives in the very counties where they were born; 77% of the sample have lived in Missouri since birth. In contrast, across the nation 19.4% of Americans change their residence *annually* (12.6% moving within their counties, 3.1% changing counties within their state, 3.7% changing counties to another state).[2]

The county of residence of the 32,000 EFSCH patients has been tallied and each county's representation has been recorded as a percent of the total (Table 1—Column 1). The county of residence of each of the 705 people with multiple cancer has been recorded as a percent of the total of this group (Table 1—Column 2).

If environment has no effect on cancer distribution in Missouri, one would anticipate that the percent of second primary cancers in a given county might relate to the percent of first primary cancers referred to EFSCH from a given county as unity (they would be proportionately the same). We have termed this proportion the *cancer intensity coefficient* (C.I.C.) If this proportion is not unity, there is reason to believe that the geographic delineation of the various proportions may highlight those determinants that cause the increased or decreased prevalence.

Results

Missouri has 115 counties. Table 1 shows the distribution by county of residence of the EFSCH population expressed in percent (Column 1). Fig. 1 is a Missouri map with the 19 counties shaded that contribute the largest number of persons to the EFSCH population—each contributing 1.5% or more of the 32,000 patients.

Table 1 also shows the distribution of patients with multiple cancer from all counties expressed by total number (Column 4) and by percent (Column 2). The cancer intensity coefficient (Column 3) is derived using Column 2 figures as the numerator and Column 1 figures as the denominator. Those counties with a C.I.C. of unity or near unity have the anticipated incidence of second primary cancers. Those 19 counties in which this figure appreciably exceeds unity may have a greater than normal propensity toward this disease.

Fig. 2 shows a map of Missouri with counties shaded having a C.I.C. of 1.2 or more. Nine areas with a C.I.C. greater than 1.2 *are not* mapped (St. Louis City and Schuyler, Worth, Andrew, DeKalb, Daviess, Washington, Reynolds, and Bollinger counties). In each of these areas three or less patients with multiple cancer have been seen. Such small numbers make any statistical validity suspect.

There exists an agglomeration of counties with a C.I.C. above 1.2. Of the 13 counties that contact the Missouri River between the confluence of the Kaw River and the Osage River, 11 have C.I.C. above 1.2. When these 13 counties are considered together (including unshaded Chariton and Moniteau counties) the C.I.C. for the group is 1.43 (Table 2). In contrast, all counties north of Kansas City bordered by the Missouri River have a C.I.C. of only .87. The counties bordered by the Missouri River east of the Osage River confluence have a C.I.C. of .84. The counties bordered by the Mississippi River north of St. Louis have a C.I.C. of .77; those counties bordered by the Mississippi River south of St. Louis have a C.I.C. of .59.

Another agglomeration occurs in four southwest Missouri counties in the Greater Springfield

TABLE 2

Area	*Admission Prevalence %*	*Multiple Tumor Prevalence %*	*Intensity Coefficient*
Missouri River Counties (North of Kaw)	2.77	2.40	.87
Missouri River Counties (Kaw to Osage)	13.59	19.30	1.43
Missouri River Counties (Osage to Mississippi)	2.85	2.40	.84
Mississippi River Counties (North of St. Louis)	4.18	3.23	.77
Mississippi River Counties (South of St. Louis)	6.41	3.81	.59
Greater Springfield Area	5.19	7.51	1.45

TABLE 3

Of the Selected Variables of Missouri Given Consideration in Comparing Geographic Distribution of Multiple Cancer

- Geologic character
- Mineral resources
- Water resources
- Weather patterns
- Average precipitation
- Minimum and maximum temperatures
- Dates of killing freeze
- Air pollution
- Sewage and water contamination
- Population
- Population trends
- Socio-economic patterns
- Highways
- Railroads
- Airlines
- Forest types
- Soil areas
- Soil textures
- Surface soil depths
- Productivity of land
- Farmland
- Cropland
- Pasture land
- Woodland pasture
- Farm size
- Livestock farms
- Dairy farms
- Poultry farms
- Cash-grain farms
- Cotton farms
- General farms
- Corn
- Wheat
- Hay
- Oats
- Soybeans
- Cotton
- Tobacco
- Vegetables
- Orchards
- Vineyards
- Small fruits and berries
- Cattle
- Dairy cattle
- Hogs and pigs
- Sheep and lambs
- Chickens
- Horses
- Mules
- Wildlife
- Insects
- Plant pathogens

area. The accumulated C.I.C. for this group is 1.45.

The combined C.I.C. of these two agglomerated areas (Greater Springfield and Kaw to Osage) is 1.43. The C.I.C. of the remaining 99 counties in the state is .90 (near unity and near expected).

Discussion

Inspection of the map (Fig. 2) suggests that the distribution of counties with high C.I.C. is not random. This pattern may be due to (1) Chance, (2) Bias in accumulating data, (3) Dependent variables having no pertinence to cancer, (4) Cancer-pertinent variables that cannot be recognized now or (5) Cancer-pertinent variables that have not been recognized until now.

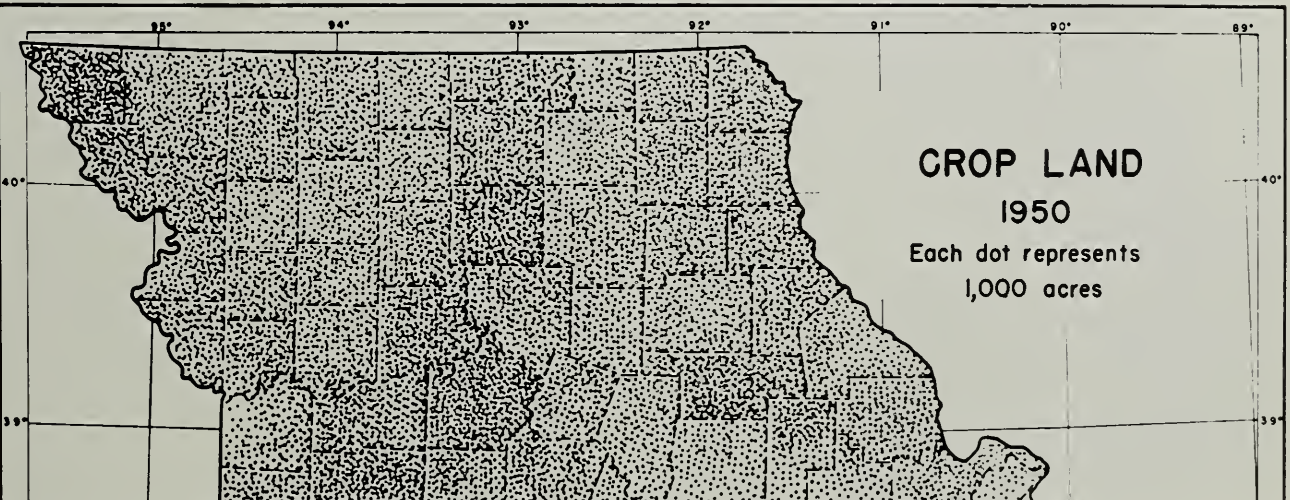
Chance alone could give this pattern. However, this likelihood has a low probability. If 115 counties are taken and 20 are known to possess an attribute, we assume that the probability any county selected at random possessing the attribute is 20/115 or 4/23 (A posterori probability). Between the two selected points on the Missouri River (confluence of the Kaw and the Osage Rivers), there are 14 counties. The expected number of counties possessing the attribute in the area is 4/23 × 14 = 2.43. The probability that as many as 11 lie in the area by chance is .0000009. This is not a completely valid statistical method for analyzing the probability that 11 counties occur together. To perform this task properly, an inordinately complex computation is required. We think the result would add little information to what can be obtained by inspection of the map.

Bias in collection may contribute to the disproportion seen on the map. As example, if certain counties regularly refer patients with cancer in an early stage and others regularly refer patients in an advanced stage, this selectivity could affect the number of persons alive and subject to second primary cancers. A comparison of Fig. 1 and 2 shows that some counties contribute a high percent of initial referrals but a low percent of second cancers; other counties have low initial referrals but high second cancer percents; still others show proportions high in both categories or low in both. Such irregularily suggests initial selectivity, or stage of advancement may be independently variable to the appearance of second cancers. Other questions can be asked. Do patients living in counties near EFSCH or linked to it by better highways return more frequently and for more years? We think not. Our follow-up schedule is based on disease-site and not on the distance of the patient's residence from the hospital. The records show that persons living great distances are equally conscientious about returning for examinations as those living near. In conclusion, we do not think persons living far from the hospital are less likely to have second cancers detected nor conversely are those living close more likely.

Variance in the astuteness of physicians to detect second cancers and variance in the effectiveness of local public health educational programs are factors that cannot be measured with certainty. Because EFSCH maintains an active program of prolonged follow-up examination of all cancer patients, regardless of county, we think these variables may be insignificant.

A disadvantage the sample suffers is that it concerns a lethal disease that frequently ends life before a second primary cancer becomes manifest. This problem could be partially assuaged by studying the distribution of primary cancers in population samples of other statewide hospitals concerned with less lethal disease, e.g., psychoses, tuberculosis.

Many *variables* are functioning in any geographic area as large as Missouri. This study has explored the geographic distribution of those variables listed in Table 3 to determine any with distributions similar to that found for the high C.I.C. counties. No absolute correlation was found although some similarity was noted between high C.I.C. counties and the amount of *crop land* in a county (Fig. 3). An hypothesis suggests itself: a large number of the cancers in our sample occurred in the skin. Recognizing that a dependent relationship is accepted for sun



Data from U.S. Census of Agriculture, 1950

Fig. 3

exposure and skin cancer, it is postulated that as the amount of crop land increases in a given county there is also an increase in farmer-hours of sun exposure. The southeast counties of Missouri also have a high proportion of crop land but are not high C.I.C. counties. This discrepancy may be explained because many of the farm laborers in southeast region are Negro. The skin of this race is known to be less affected by sun exposure. To support or refute this hypothesis, a separate study should be made correlating skin cancer, crop land and race distribution in Missouri.

Noting the distribution of high C.I.C. counties along a portion of the Missouri River one is attracted to the possibility that a positive correlation may exist between cancer prevalence in this region and some factor in the river water. This might incriminate Kansas City as a source of high pollution load pouring into the water and then being diluted gradually to insignificance as the river blends with the confluent waters of the Osage and Gasconade Rivers downstream. This assumption gains some support because of the lesser intensity noted in the river counties upstream from Kansas City. Such conclusions must be accepted with considerable reservation, however, because the concentration of any river-borne carcinogen is almost certain to be so low that this alone would exclude river water from being directly responsible in causing the effect. In addition, it must be appreciated that very few people living in the high intensity counties along the Missouri River receive their water supply directly from the river (most communities in this area obtain water from deep wells).[3] A final conclusion cannot be reached with certainty until this aspect is assessed in detail. Chemicals that should be investigated are zinc,[4] chromium, arsenic, radioactive chemicals, petroleum and by products, aromatic amino- and nitro-compounds, pesticides, herbicides and surfecants.[5]

Any carcinogen that might be present in the water of the Missouri River east of Kansas City, although not of sufficient concentration to cause cancer in itself, might indirectly be related by affecting animals living in or near the river—thus permitting them to concentrate the carcinogen in their organs to later transfer a highly contaminated tissue to man. This type of carcinogenesis has been observed in the muskrat and trout.[5]

Diels and Tromp in Holland have found that municipalities receiving their drinking water from rivers had a higher cancer death rate than those which obtained their drinking water from bodies of water in heaths, dunes or wells.[5] Wedgewood and Cooper in England have suggested that certain carcinogens, namely 2, 4-benzpyrene and 1, 2-benzanthrancene, may be introduced into sewage with effluents discharged from gas works, washings from macadam roads and atmospheric soot washed from the air by rain.[5] Their findings might explain why river water could be a greater source of carcinogenic materials than other water sources.

When aromatic compounds are introduced into river water, they frequently do not disappear quickly. Evidence has been collected by Middleton *et al* showing that some intermediates, such as chloronitrobenzol, which was demonstrable in the Mississippi River water at St. Louis was still present as far downstream as New Orleans. Such persistence of diluted compounds would make it difficult to indict a direct causal relationship in our study since the counties adjacent to the Missouri River just below the Osage confluence are abruptly less affected.

Other variables related to the river, such as insects, rodents, foliage, etc., may be responsible if they should act as vectors. McDaniel *et al* have shown that the mosquito can act as a vector in transmitting Rous sarcoma virus.[6] Even if these factors are not directly responsible, they may be implicated for carrying cocarcinogens capable of raising the susceptibility of persons in the area.

Because large numbers of cancer in this population involve the skin, one may ask if the river in this region in any way influences skin susceptibility to sunlight. The prevailing winds, with their attending cloud patterns, do not fit this hypothesis.

In conclusion, this study does not permit decisions that explain the distribution of multiple cancers in Missouri. It does, however, show that a non-random distribution of multiple cancer is present. This finding deserves further investigation.

Bibliography

1. Spratt, J. S. and Hoag, M. G.: Incidence of Multiple Primaries Per Man-Year of Follow-up. In press: Annals of Surgery.
2. Department of Commerce, Bureau of Census: Current Population Reports. Series P-20.
3. Ryckman, D. W., Washington University, St. Louis, Missouri: Personal Communication.
4. De Szilvay, G.: L'influenza carcerogena dello zinco nell'acqua potabile. Minerva Med. 55:1504-1505, 1964.
5. Hueper, W. C.: Cancer Hazards From Natural and Artificial Water Pollutants. Proceedings: Conference on Physiological Aspects of Water Quality, 1960, Division of Water Supply and Pollutional Control, Public Health Service, Washington 25, D. C.
6. McDaniel, I. N., McDaniel, L. S. and Chute, H. L.: Persistence of Rous Sarcoma Virus in the Mosquito Culex Pipiens Pipiens. Amer. J. Vet. Res. 23:262-263, 1964.

President's Message

It appears that the "Extended Care" provisions of PL 89-97 (Medicare) will be difficult, if not impossible, to fully implement due to the anticipated shortage in extended care facilities. In early August, the Social Security Administration sent application-invitations-to-participate to some 12,600 nursing homes. By mid-October only 3,000 of those homes had responded, and of those only 2,000 indicated interest in being certified under the program.

Dr. M. L. Gentry, Director of the Medical Care Section, Missouri Division of Health, reports that his office mailed extended care information to 364 Missouri nursing homes. Seventy three have returned applications seeking certification as extended care institutions; 88 have either declined the invitation or withdrawn applications which they initially submitted: 203 have not even bothered with a courtesy reply.

Nursing home operators may display more interest in the program as a result of a recent Congressional amendment which will permit a slight increase in medicare payments to extended care facilities, most of which are "for profit" establishments. Even with the increased financial incentive, however, it appears that there will be a sizeable shortage in extended care space and that many medicare patients who would be logical patients for extended care institutions will have to seek their care elsewhere.

This problem is one with which the medical profession should concern itself. Those patients who will be left "out in the cold" by the shortage of extended care facilities are our patients. They undoubtedly will be turning to us for guidance and assistance. If we fail to provide them with a reasonable and logical solution to the problem, they will turn to others.

I urge local medical societies and hospital staffs to give this matter top priority for study and constructive action in the weeks and months ahead.

Byron M. Stuart, M.D.

Woman's Auxiliary

During this season of the year, our thoughts turn to many things of spiritual nature—among them, **giving.**

Through our INTERNATIONAL HEALTH ACTIVITIES' program of the Woman's Auxiliary to the AMA, 132.5 tons of drug samples, medical supplies, textbooks and journals were gathered for overseas distribution last year. This compared with 110 tons during the previous year. Of the 50 states, we were very proud that Missouri received **Honorable Mention** on the basis of our participation in this contribution.

Mrs. Wallace R. Stacey

Each of the county auxiliaries in Missouri participate in "Operation Santa Claus." Some give gifts and toys, decorated trees, clothing, food baskets and household articles to needy families. Others give parties for those in nursing homes, children's homes, rest homes, hospitals.

In approaching the Holiday Season, I'm reminded of a quotation from *The Prophet:*

> "You give but little when you give of your possessions.
> It is when you give of yourself that you truly give."

From the Woman's Auxiliary to the Missouri State Medical Association—SEASON'S GREETINGS!

When the stagnant sinus must be drained...

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EDITORIALS

ELLIS FISCHEL STATE CANCER HOSPITAL

Ellis Fischel State Cancer Hospital, in its 26th year, continues to provide outstanding medical care for Missouri's cancer patients and, in this way, relates to every practitioner in the state. The Cancer Research Center, established in 1963, is committed to utilizing the knowledge of cancer accumulated in the hospital and supplementing the hospital's clinical service program with a cancer research program. In keeping with this objective, the Center is funding and staffing three completely new sections for research in space leased from the hospital. The **clinical research unit** provides a modern 8-bed ward for special study and treatment of cancer patients. The **statistical department** provides staff and facilities to study the vast clinical experience documented in the hospital's clinical records of more than 36,000 cases. The **laboratory unit** is the basic science arm for the complex. Of the combined operating budgets of the hospital and the Center for the last fiscal year, 28% represented the Center's research expenditures.

Today every available square foot has been utilized within the hospital and it is impossible now to expand the research program of the Center until more facilities are created. As a consequence, construction will soon begin on a data laboratory west of the hospital. This structure, costing some $200,000, will have a highly flexible architectural design to accommodate rearrangement of spaces dictated by the research program. The entire cost will be provided by private sources.

The 73rd General Assembly appropriated money for planning a proposed addition to the Ellis Fischel State Cancer Hospital. A St. Louis architectural firm is now designing a wing to double the present patient capacity and provide a modern cancer detection center in the outpatient clinic. Additional space will be available also for other facilities. This expansion will add 100 beds to the hospital and increase the size of most of the service departments.

The Cancer Research Center presently finances its entire program with donated funds that are received throughout the year and with funds that become available from year to year through research project grants. The Center was established on the philosophy that research would be supported by private sources. The enthusiastic support which has been received so far from this sector has convinced us that it is, indeed, a sound philosophy and an achievable objective.

During the coming year, we hope that interest in our efforts continues so that we may further the development of what promises to be one of the most significant efforts in the field of clinical cancer research.

The Center is not satisfied with simply maintaining the present level of activity, but views the extant program as only a beginning. Plans are being made to increase significantly research activities. New programs will include cancer detection, a statewide tumor registry and a rehabilitation facility. Of the more than 65 research projects now being started at the Center and hospital, the following are given for the interested reader's appraisal:

The use of whole organ sections for the study of the pathological anatomy of carcinoma of the colon.

Study of the urinary tract complications after abdominal perineal resection in males.

The parameters of log normal frequency distributions to describe the behavior of human cancer.

Statistical analysis of 367 prostate cancers using the life table method.

Determination of urinary excretion patterns of estrone, estradiol, estriol and androgens in cases of mammary carcinoma.

Computer methods for finding isodose curves for needle and seed implants.

Investigation of plasma inhibitor(s) to leukocytic cathepsins.

Automation of tumor registries.

A study of trace elements in normal and malignant tissue in terms of pattern analyses.

The use of locally applied 5-fluorouracil in a family with basal cell nevus syndrome and in patients with non-familial multiple basal cell carcinomas.

Radical cystectomy for advanced cancer of the urinary bladder.

Auto-immunity in the treatment of cancer.

Pathology of malignant tumors of the urinary bladder.

Reference book for nurses on care and rehabilitation of cancer patients.

Participation in Western Cooperative Cancer Chemotherapy Group for phase I, II and III evaluations of new cancer chemotherapy agents.

The use of the Coulter Counter, Model B, as a means of uterine cancer detector based on cell size distribution pattern.

The viscoelastic properties of human cancer correlated with life history and treatment.

Intra-arterial infusion chemotherapy with 5-fluorouracil for carcinoma of the head and neck, liver and pelvis.

JOHN S. SPRATT, JR., M.D., *Chief of Staff*
Ellis Fischel State Cancer Hospital

TITLES MUSHROOM IN DRIVE FOR STATUS

A desire for professional status is having vast, if little-understood, effects on American business and industry.

Also, needless to say, on the country's social system.

Today everyone wants at least some of the trappings usually reserved for those regarded as "professionals."

Some sociologists have even commented that the drive for status in America may well prove the biggest argument against Freudian theories of psychology yet studied.

The most common symptom of the gnawing desire for professional status is the title. Janitors have become maintenance engineers. Garbage collectors have become sanitation engineers. Advertising salesmen have become accountant executives. Drivers prefer to be known as chauffeurs. Stenographers prefer the title of secretary, however routine their assigned duties.

Such minor pretensions are more amusing, than troublesome.

Another manifestation of the driving campaigns for professionalism, however spurious, is the Association.

The most basic reason for many associations—or so they claim—is the fixing of standards of conduct for members. Usually, such standards are embodied in elaborate codes, condition for membership.

Eventually, such special interest groups become just that—SPECIAL INTEREST GROUPS. They apply pressure toward non-members in an effort to "maintain standards." The fact that some restraint of trade, some limiting of competition, some aspects of monopoly result seems of minor importance.

Sometimes, these trade groups become so powerful they assume quasi-legal powers of licensing, rule making and business regulation.

In fact, the effects of such striving for professionalism by many Americans have posed thorny problems of law for legislatures and courts.

The line between restraint of competition and the selective admission of members in order to maintain standards sometimes gets so thin as to be largely fictional.

Certainly, the true professions, such as medicine and law and a few others, have properly assumed the responsibility for the character, conduct and qualification of their members.

But the mere fact that a man has a college degree and earns his livelihood from one major activity doesn't make him a professional.

Nor will all the codes of conduct, the myriad regulations, the exclusivity of membership, nor the long group names and catchy abbreviations do the job.

The true professions perform vitally important roles in our society. They require extensive formal education. They accept the responsibility for admitting, educating, examining and the character of applicants for the profession.

A truly professional group is dedicated more to the service of society generally than to the service of members.

It assumes responsibility of improving the standards of the profession, for encouraging improvements in the necessary educational institutions and for financial aid to its necessary institutions.

A truly professional group recognizes its responsibility for expanding human knowledge and has formal means for doing such.

And until trade associations assume and discharge these responsibilities in a truly superior manner, they will never be real professional groups. No matter how exclusive. No matter how long the group names. No matter how high the membership fees. No matter how loud the pretensions.

Jefferson City **POST TRIBUNE**

"DOCTOR, CAN WE HOLD THE LINE?"

During the next three years the question of whether the medical profession can hold the fee line is one that cannot be ignored. The physician's fixed overhead for rent, supplies, office personnel, travel and continuing education will undoubtedly increase. The American Nursing Association has rightly recommended a straight $1,500 per year increase in nursing salaries, so that the member nurses' average monthly salary would be in excess of $500. The recent airline strike and settlement giving an increase over a three-year period to the airline mechanics will result in increased air fare; the local mechanics' strike, when settled, will undoubtedly result in higher costs of automobile maintenance. Teamsters' strikes have and will increase the cost of transporting all merchandise. As new labor contracts expire and must be renegotiated, the continuing wage and fringe benefits will increase the consumer's cost of all products. When we purchase or lease our next car we may be in for a mild shock when confronted with the finance interest rates. An inevitable income tax increase will further reduce the physician's net spendable income.

The physician cannot escape the upsurge of rising costs and decreasing purchasing power. It is unlikely that a physician's professional or office staff will be happy at the same salary level or at longer hours during the next three years. What can the physician do to hold the fee line?

First, he must reorganize his professional schedule, if possible, to eliminate duplication or wasted effort in his office or hospital routine, and he must demand more efficiency from his secretarial and professional aides.

Second, he can spend additional hours in the office or at the hospital and increase his patient load.

Third, he can reduce the amount of vacation and elective time out of the office (this is unlikely).

Fourth, reduction in the number of secretarial or professional aides is unlikely and undesirable if he is to continue his present patient load or to allow his patient load to increase. Whether or not we participate in Medicare, the insurance form volume will steadily increase. No reduction in other fixed professional expenses can take place in the foreseeable future.

Fifth, he can reduce personal living expenditures.

Sixth, the ultimate question which the individual physician must answer during the next three years is whether or not he can hold the fee line. Our patients are also victims of inflation; not all of them belong to unions, and therefore they will not have the three-year increase in income to offset the spiraling costs of existence.

Can we hold the fee line? I hope so, for the sake of many patients who cannot afford an increase in professional fees.

James W. Willoughby, M.D.
Greater Kansas City Medical Bulletin
October 15, 1966

ELLIS FISCHEL STATE CANCER HOSPITAL CONSULTING STAFF MEETING

Sunday, December 4

Moderator: Ruheri Perez-Tamayo, M.D., Chief of Radiotherapy.

9:00- 9:05 AM Welcome—Ruheri Perez-Tamayo, M.D.

9:05- 9:20 AM *Urinary Retention After Abdominal Resection of the Rectum in Male Patients*, Robert L. Glass, M.D., Attending Surgeon, EFSCH.

9:20- 9:35 AM *Colon Perforation Occurring During Routine Diagnostic Procedures*, John L. Kiser, M.D., Senior Resident in Surgery, EFSCH and Washington University.

9:35- 9:50 AM *Cervical Lymph Nodal Metastases From Unknown Primary Cancers*, Pun Fai Yuen, M.D., Cancer Control Trainee and Gene Ridenhour, M.D., University of Missouri School of Medicine and EFSCH.

9:50-10:05 AM *Preoperative Irradiation of Carcinoma of Rectum*, John S. Spratt, Jr., M.D., F.A.C.S., Chief Surgeon, EFSCH.

10:05-10:35 AM Coffee.

10:35-10:50 AM *Cystosarcoma Phylloides of the Breast*, William L. Donegan, M.D., Assistant Surgeon, EFSCH.

10:50-11:05 AM *Primary Tumors of the Biliary Tree in Children;* presentation of a case and review of the literature, Richard K. Danis, M.D., Assistant Clinical Professor Surgery, Washington University.

11:05-11:20 AM *The Use of Giant Histological Sections in the Study of Tumors,* Carlos Perez-Mesa, M.D., Chief Pathologist, EFSCH.

11:20-11:35 AM *A Definition of the Medical Regional Program for Heart Disease, Cancer and Stroke,* Galen B. Cook, M.D., Associate Director (Cancer) Regional Center, Heart Disease-Cancer-and-Stroke Program.

11:35-11:50 AM *Communication Theory Research Applied to Medicine*, William Stephenson, Ph.D., Research Professor of Journalism, University of Missouri.

11:50 AM Consulting Staff Conference.

1:00 PM Fall Business Meeting—Association Missouri Tumor Registry Directors.

Note: BASKETBALL: Arkansas at Columbia, Brewer Field House, December 3, 1966, 7:30 p.m. (Make own arrangements.)

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Corcoran, A. C.: The choice of drugs in the treatment of hypertension. In: Drugs of Choice 1966-67, W. Modell, Ed., St. Louis, C. V. Mosby Company, 1966, p. 417.

Indications: DIUTENSEN-R may be employed in all grades of essential hypertension. **Dosages:** Usual dose is 1 tablet twice daily, at morning and evening meals. However, adjustment of dosage to suit individual circumstances may be required. Please refer to package insert for full particulars. **Side effects and precautions:** The side effects observed with patients on DIUTENSEN-R have been of a mild and nonlimiting nature. These include occasional urinary frequency, nocturia, nasal congestion, muscle cramps, skin rash, joint pains due to gout symptoms and nausea and dizziness which have been reported for the individual components. Most of these symptoms disappear while the drug is continued at the same or lower dosage level. The concomitant use of digitalis and DIUTENSEN-R may increase the possibility of digitalis-like intoxication. If there is evidence of myocardial irritability (extrasystoles, bigeminy or AV block), dosage of DIUTENSEN-R should be reduced or discontinued. Nocturia in patients with marginal cardiac status and salt and fluid retention can be effectively controlled by limiting the time of administration to early afternoon. DIUTENSEN-R should not be used in patients with a known intolerance to reserpine. Package inserts furnish a complete summary of recommended cautions related to each of the ingredients of DIUTENSEN-R.

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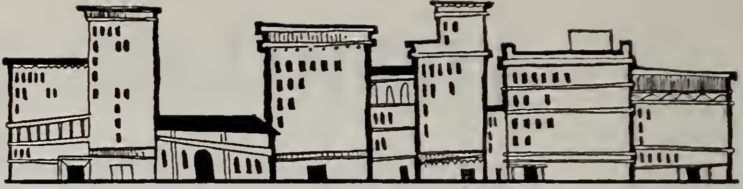

WASHINGTON UNIVERSITY

One of the most coveted awards for medical research has been awarded to two Washington University School of Medicine scientists. Dr. Oliver H. Lowry and Dr. Janet V. Passonneau were named winners of the Borden Award for their major contributions in the area of nucleotide microbiochemistry in nervous tissues. Dr. Lowry is professor and head of the Department of Pharmacology. Dr. Passonneau is assistant professor of pharmacology. In pursuit of their goal of more complete information of nerve cell function, the pair has developed ultramicrobiochemical techniques to the point that a single cell can be weighed and analyzed.

Dr. Walter F. Ballinger, II, has been appointed Bixby professor and head of the department of surgery. Dr. Ballinger, presently associate professor of Surgery and Markle scholar in medical science at the Johns Hopkins University School of Medicine, will assume the administrative position July 1, 1967. He succeeds Dr. Carl A. Moyer, who left to enter private practice in Michigan in 1965 after 15 years as head of the department. Dr. Henry G. Schwartz, head of the Division of Neurosurgery, has been serving as acting head of the department. A general surgeon, most of Dr. Ballinger's work has been in the fields of intestinal and vascular surgery. He has done extensive research upon the effects of vagotomy on the small intestine.

ST. LOUIS UNIVERSITY

A five year grant of $191,606 designed for the training of physicians in the field of endocrinology and metabolism from the Public Health Service has been received by the Department of Internal Medicine. Dr. Thomas F. Frawley, professor of internal medicine and chairman of the department, who heads this new program, said that the award would make possible the training of physicians in all aspects of endocrinology relating to abnormalities of the pituitary, adrenal, thyroid, and the gonad glands. The training of physicians to become qualified endocrinologists will serve the needs of this country in furthering the President's health programs for cancer, diabetes mellitus, organ transplantation as well as the total national health.

Dr. Frawley said that the participants in the program would be selected on the basis of merit and ability and proven interest in endocrine metabolic research. To be eligible, candidates must have completed an internship or part of a residency program in internal medicine.

Dr. John C. McGiff has been named director of the cardiovascular section in the Department of Internal Medicine. He also was named associate professor of internal medicine. Dr. McGiff came to St. Louis from the University of Pennsylvania where he was assistant professor of medicine and pharmacology at the University of Pennsylvania. His current scientific projects are regulation of salt excretion and reactivity of blood vessels to pressor agents.

Cases of pulmonary emphysema have been studied at the School of Medicine for the last 15 years by Dr. G. O. Broun, Sr., dean emeritus and professor of internal medicine, and by Dr. Herbert Sweet, professor of medicine, with the idea of determining the possible role of certain infections in the causation of this condition.

One of the infections which has been studied is psittacosis, a disease which is transmitted to man as a result of contact with parrots, parakeets, lovebirds, turkeys and other domestic fowl. Results of these studies were reported recently by Dr. Broun in the first faculty seminar of the present school year. His address was entitled "Occurrence of Psittacosis in the St. Louis Area."

UNIVERSITY OF MISSOURI

The University of Missouri Medical Center celebrated its Tenth Anniversary. As part of the anniversary activities, a dedication ceremony for the recently completed addition to the research wing of the University Medical Center was held on Sunday in the Medical Center Auditorium. Dr. Francis L. Schmehl, chief of Health Research Facilities Branch, Division of Research

Facilities and Resources, National Institutes of Health, was the featured speaker.

Also on Sunday "Missouri Forum," a public affairs presentation of the University of Missouri station, KOMU-TV, featured a program entitled "University Medical Center—The First Decade." The program was telecast and taped by the University Extension Division for use by 32 cooperating Missouri radio stations the following week. Panel participants for the program included University President John C. Weaver, President Emeritus Elmer Ellis, Chancellor Schwada, and Dean Vernon E. Wilson of the School of Medicine.

Dr. Rober M. Zollinger, chairman of the department of surgery at the Ohio State University, presented the W. Alton Jones Surgery lecture on Friday. A reception followed in the Alumni Lounge of the Memorial Student Union.

The University Medical Center's annual M.D. Day, Nov. 4-5, to which all Missouri doctors were invited, preceded the anniversary events.

According to Dean Wilson, "growth" is the one word most accurately describing the Medical Center's first decade.

The University has received a grant of $96,018 from the National Heart Institute for the first year of a five-year research study of the humoral factors of experimental heart failure. Principal investigator under the grant is Dr. James O. Davis, professor and chairman of the department of physiology since July, 1966. Dr. Davis is noted for his research on heart failure and hypertension, carried out during his 16 years with the National Heart Institute at Bethesda, Md. The broad objectives of Dr. Davis' research are to define the role of the renin-angiotensin system, aldosterone, and extra-adrenal sodium-retaining and/or sodium-excreting factors in the physiological regulation of renal sodium excretion and in the pathogenesis of heart failure and of renal hypertension. These problems will be investigated in dogs.

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County Society News

FIRST DISTRICT

COUNCILOR
JOSEPH L. FISHER, M.D., ST. JOSEPH

Buchanan County Medical Society

Forty-four physicians attended the annual election meeting of the Buchanan County Medical Society on October 5 at the Hotel Robidoux in St. Joseph.

The following officers were elected: President-Elect, Berwyn H. Moen; Vice-President, John L. Mothershead; Secretary, Maxwell Day; Treasurer, Robert W. Kieber (re-elected to office for the 14th consecutive year); Member, Board of Censors, Francis J. Berney; Delegates to MSMA, John N. Martin, Richard V. Riddell and Ernest E. Wadlow; Alternates, Allen I. Herman, Thompson E. Potter and William B. Rost; Member, Committee on Public Policy, Carlyn M. Kline; Board of Trustees, Paul M. Beck; Executive Secretary Committee, William Redmond.

The newly elected officers and Irvin I. Rosenthal, the incoming President, will be installed at the annual meeting of the Society on Saturday, December 3, at Moila Club.

John L. Mothershead, M.D., *Secretary*

Grand River Medical Society

The Grand River Medical Society and Auxiliary held their regular monthly meeting at the Frontier House near Chillicothe on the evening of October 31 with 46 members and guests in attendance.

Dr. Frederick J. McCoy, Plastic Surgeon from Kansas City, discussed "On the Spot Evaluation of Severe Facial Injuries." This was a very practical discussion and was well received by the doctors present.

At the business meeting, the Grand River Medical Society voted to have a hospitality room at the 1967 Missouri State Medical Association Annual Meeting.

The following officers were elected for 1967: President, Glennon A. Horner, Marceline; First Vice-President, William L. Fair, Chillicothe; Second Vice-President, Jack L. Vinyard, Carrollton; Program Committee Members, B. D. Howell, Chairman, Brookfield; Windsor B. Atcheson, Trenton; R. Hamilton Staton, Carrollton; Mental Health Chairman, Chester L. Clark, Trenton; Secretary-Treasurer, Albert D. Cross, Trenton.

We were happy to have Dr. Huberta Rice as a guest. Dr. Rice, who has been on the staff of the Student Health Clinic at the University of Missouri and at State Hospital No. 1, soon will open her office for the general practice of medicine in Brookfield.

The community was saddened by the death of Dr. George Carpenter of Chillicothe on October 7. Dr. Carpenter served his community long and well prior to his retirement a few years ago.

Albert D. Cross, M.D., *Secretary-Treasurer*

SIXTH DISTRICT

COUNCILOR
ROLLA B. WRAY, M.D., NEVADA

West Central Missouri Medical Society

The West Central Medical Society met at Glenn's Cafe in Butler on the evening of October

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13. The meeting of the Society followed a social hour and dinner. The attendance was 20.

The meeting was called to order by Robert Magee, M.D., President. The scientific portion of the program was a presentation by Gerard Van Leeuwen, M.D. His topic was "Care of the Premature Infant." Dr. Van Leeuwen's presentation was intensely interesting and very practical.

Following the scientific portion of the program, the business meeting was held. Minutes of the previous meeting were read and approved. Correspondence was reported by the Secretary. On motion duly made and seconded, Drs. Baska, Moody and Williams were voted dues-exempt status for the year 1967 because of the present status as residents.

Robert Brownsberger, M.D., reported for the nominating committee. The report of the committee's recommendations for officers was as follows: President, Alfred W. Eklund, Pleasant Hill; Vice-President, Curtis W. Long, Butler; Secretary-Treasurer, Roy W. Pearse, Jr., Nevada. Delegates and alternates to MSMA: Bates County; Arthur L. Hansen, Butler, Delegate and Carter W. Luter, Butler, Alternate. Cass County; Edward S. Jones, Harrisonville, Delegate and Alfred W. Eklund, Alternate. Cedar County; Worley K. Stewart, El Dorado Springs, Delegate and Robert L. Magee, El Dorado Springs, Alternate. St. Clair County; Donald H. Giesler, Osceola, Delegate and Jerome H. Thies, Osceola, Alternate. Vernon County; James J. Pascoe, Nevada, Delegate and William H. Allen, Nevada, Alternate.

On motion duly made and seconded the report of the nominating committee was accepted. President Magee called for nominations from the floor for the offices. No nominations were made. On motion of Dr. Luter, seconded by Dr. O. B. Barger, nominations were closed and the Secretary was requested to cast a unanimous ballot for the candidates listed in the report of the nominating committee.

Dr. Robert L. Strobach reminded the members of the program on Inhalation Therapy which would be held at the Bates County Hospital in January 1967.

There being no further business, a motion was duly made and seconded, and the meeting was adjourned.

Roy W. Pearse, Jr., M.D., *Secretary*

Lafayette-Ray County Medical Society

The October meeting of the Lafayette-Ray County Medical Society was held on October 11 at Lexington. Ten members of the Society were present for the dinner meeting.

At the business meeting, it was decided to continue with the present Lafayette-Ray County Medical Society dues of $5.00 per year. It also was decided, by unanimous action, to change the status of Dr. Odus Liston, Oak Grove, to honor member.

The program was given by Mrs. Hugh Brady and consisted of a talk relating the history and purpose of the woman's Medical Auxiliary. The meeting adjourned.

Wayne Boydston, M.D., *Secretary*

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Meprobamate: Careful supervision of dose and amounts prescribed is advised, especially for patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g. alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence on the drug. Where excessive dosage has continued for weeks or months, reduce dosage gradually. Sudden withdrawal may precipitate recurrence of preexisting symptoms such as anxiety, anorexia, or insomnia; or withdrawal reactions such as vomiting, ataxia, tremors, muscle twitching and, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, reduce dosage and avoid operation of motor vehicles, machinery or other activity requiring alertness. Effects of excessive alcohol consumption may be increased by meprobamate. Appropriate caution is recommended with patients prone to excessive drinking. In patients prone to both petit and grand mal epilepsy meprobamate may precipitate grand mal attacks. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

Side Effects: Overstimulation of the central nervous system, jitteriness and insomnia or drowsiness.

Dextro-amphetamine sulfate: Insomnia, excitability, and increased motor activity are common and ordinarily mild side effects. Confusion, anxiety, aggressiveness, increased libido, and hallucinations have also been observed, especially in mentally ill patients. Rebound fatigue and depression may follow central stimulation. Other effects may include dry mouth, anorexia, nausea, vomiting, diarrhea, and increased cardiovascular reactivity.

Meprabamate: Drowsiness may occur and can be associated with ataxia; the symptom can usually be controlled by decreasing the dose, or by concomitant administration of central stimulants. Allergic or idiosyncratic reactions: maculapapular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case of fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis (1 case), anaphylaxis, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdosage may produce drowsiness lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

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LEO H. POLLOCK, M.D.

Missouri Medicine in Review

FORTY YEARS AGO

The Sixth Annual Meeting of the Southwestern Branch of The American Urological Association was held at St. Louis November 1 and 2 under the presidency of Dr. H. McClure Young, St. Louis. The following officers were elected for the ensuing year: President, Dr. Nels Ockerblad, Kansas City; Vice-President, Dr. H. King Wade, Hot Springs, Ark.; Secretary-Treasurer, Dr. Clinton K. Smith, Kansas City. Kansas City was selected as the next meeting place.

A suit for contempt of court against Dr. E. W. Cavaness, City Health Director of Kansas City, and O. C. Murphy, Food and Dairy Commissioner, was dismissed by Judge Coon on November 20. Judge Coon had issued a restraining order prohibiting the city authorities from interfering with the dairy activities of L. K. Hebeler, who was charged with selling milk contaminated from a polluted spring on his dairy farm, thus causing the milk to become a source of typhoid fever. In spite of the restraining order, the Health Director and the Food and Dairy Commissioner sought to prevent the sale of milk from Hebeler's dairy.

TWENTY-FIVE YEARS AGO

In commemoration of the 400th anniversary of the death of Paracelsus (Theophrastus Bombastus von Hohenheim, 1493-1541), there will be an exhibit of books, pictures and charts in the Library of the St. Louis Medical Association. The library contains the largest collection of "Paracelsica" in the Western hemisphere. The only known larger assemblage of similar works and articles is that of the late Professor Karl Sudhoff at Leipsig, Germany, the fate of which is not known.

House Bill No. 201 passed by the 61st General Assembly, requires every person licensed to practice medicine and surgery in the State of Missouri to register biennially with the State Board of Health.

The Dallas-Hickory-Polk County Medical Society met at Wheatland on October 7 in the office of Dr. A. S. Johnston, following a dinner at 7 p.m. Members present were Drs. D. C. McCraw, Bolivar; A. J. Stufflebam, Humansville; R. E. Harrell, V. H. Greenwood and G. C. Plummer, Buffalo; A. S. Johnston, Wheatland; and T. D. Wrinkle, Halfway. A round table discussion was held with Dr. McCraw, Vice-President, presiding.

TEN YEARS AGO

At an organization meeting in September, the Cole County Heart Council named Earl Loyd, M.D., Jefferson City, as Vice-President.

At the closing session of the American Roentgen Ray Society in Los Angeles September 24 to 28, Wendell G. Scott, M.D., St. Louis was elected President-Elect.

The American Rhinologic Society, meeting in Chicago on October 13, presented the Golden Head Mirror Honor Award of the Society to Joseph H. Ogura, M.D., St. Louis, "for meritorious sharing in the service of rhinology."

According to the Metropolitan Life Insurance Company, a historic milestone was reached in 1955 when the expectation of life at birth among American wage earners and their families, as represented by industrial policyholders of the company, rose to a new high, which is 70.0 years. The increase in life expectancy has risen five years since 1945, ten years since 1935 and 24 years since 1909.

The Ezra Council No. 32, R. & S.M., Jefferson City, honored Richard P. Dorris, M.D., with a dinner at the Masonic Temple on October 10.

Officers of Whiteman Air Force Base and their wives heard a talk by A. L. Walter, M.D., Sedalia, on his trip through Russia. The talk was illustrated with colored slides.

Constitution and By-Laws

of the

Missouri State Medical Association

Adopted 1903

1966 Revision

515 EAST HIGH ST. JEFFERSON CITY, MO. 65101

Constitution

ARTICLE I. NAME OF THE ASSOCIATION

The name and title of this organization shall be the Missouri State Medical Association.

ARTICLE II. PURPOSE

The purpose of this Association is the promotion of the science and art of medicine, the protection of public health, the betterment of the medical profession, and, by uniting with similar organizations in other states and territories of the United States, to form the American Medical Association.

ARTICLE III. MEMBERSHIP

Membership in this Association shall be limited to and include all members in good standing in component societies which hold charters from this Association.

ARTICLE IV. HOUSE OF DELEGATES

The House of Delegates shall be the legislative body of this Association and shall consist of delegates elected by the component societies. It shall elect a Speaker and Vice Speaker from its body. Its Secretary shall be the Secretary of the Missouri State Medical Association.

ARTICLE V. COUNCIL

The Council shall be the executive body of this Association when the House of Delegates is not in session. It shall be the judicial body of the Association when matters are referred to it for decision by the Association, by component societies or by individual members thereof. It shall consist of the President, President-Elect, Immediate Past-President, Secretary, Treasurer and the duly elected Councilors from each Councilor District. Nine members shall constitute a quorum.

ARTICLE VI. SESSIONS AND MEETINGS

Section 1. The Association shall hold an Annual Session at a place fixed by the House of Delegates, the time of which shall be fixed by the Council.

Sec. 2. Special meetings of the Association or of the House of Delegates may be called by a two thirds vote of the Council and shall be called upon a petition signed by members equal in number to one third of the total number of delegates certified for the last Annual Session.

ARTICLE VII. OFFICERS

Section 1. The officers of this Association shall be a President, a President-Elect, three Vice Presidents, a Secretary, a Treasurer, a Speaker and a Vice Speaker of the House of Delegates and ten Councilors selected as provided for.

Sec. 2. All officers except Councilors shall be elected annually. The terms of Councilors shall be two years. Half of the membership of the Council shall be elected each year. The Secretary and the Treasurer shall be elected by the Council. The delegates present from each Councilor District shall meet prior to the last day of the Annual Session and elect the Councilor from that district. In the event of death, resignation or removal of any Councilor, the Council may appoint a successor to serve until the vacancy is filled at the next Annual Session. All of the officers shall serve until their successors are elected and installed.

ARTICLE VIII. FUNDS, EXPENSES AND BUDGET

Funds shall be raised by a per capita assessment on each component society. The amount of the assessment shall be fixed by the House of Delegates. Funds may also be raised in any other manner approved by the House of Delegates. The Council shall submit an annual budget to the House of Delegates. All resolutions providing for appropriations shall be referred to the Council and all appropriations approved by the Council shall be included in the annual budget.

ARTICLE IX. REFERENDUM

At any General Meeting of the Association it may, by a two thirds vote, order a general referendum upon any question pending before the House of Delegates. The House of Delegates may, by a vote of its members, submit any question to the membership of the Association for its vote. A majority vote of all members of the Association shall determine the question.

ARTICLE X. SEAL

The Association shall have a common seal. The power to change or renew the seal shall rest with the House of Delegates.

ARTICLE XI. AMENDMENTS

The House of Delegates may amend any article of this Constitution by a two thirds vote of the delegates present and voting at any Annual Session, provided that such amendment shall have been presented in open meeting at the previous Annual Session and that it shall have been published twice during the year in the Journal of this Association or sent officially to each component society at least two months prior to the meeting at which final action is to be taken.

By-Laws

CHAPTER I. MEMBERSHIP

Section 1. Members of this Association shall be physicians whose names have been certified by secretaries of component societies to the Secretary of this Association that they are duly elected members of a component society and are legally qualified physicians practicing in Missouri except as otherwise provided. Each member must be a citizen of the United States, of good moral and professional standing, and must not support, nor practice, nor claim to practice any exclusive system of medicine.

Sec. 2. No person who is under sentence of suspension or expulsion from any component society of this Association or whose name has been dropped from its roll of members shall be entitled to any of the rights or benefits of this Association.

Sec. 3. There shall be three classes of members as follow:

Active members shall be limited to those members of component societies who (1) hold the degree of Doctor of Medicine or Bachelor of Medicine, and (2) are entitled to exercise the rights of active membership in their component societies, as determined by their component societies, subject to the provisions of these By-laws.

Junior members shall be limited to those members of component societies (1) who are serving a full time internship or residency in a hospital approved by the Council on Medical Education of A.M.A., (2) and they shall continue as junior members for the first three years subsequent to the completion of accredited service.

Honor members shall be limited to Honor members of component societies, which societies have requested that active members who have reached advanced years and have long served the Association and the profession be made Honor members of the Association. They shall enjoy all the privileges of active membership and shall be exempt from the payment of dues.

Sec. 4. **Associate members** shall be limited to persons not provided for in the various classes of membership who are engaged in the pursuit of a medical or allied science, and by action of the component societies, become Associate members of the Association. This shall include physicians who meet medical examiners' qualifications but have not received their citizenship, these Associate members to apply for Active membership within one year after citizenship is granted. Associate members shall have the right to attend scientific sessions and such other privileges as may be extended to them by the House of Delegates. They shall not be eligible to vote and shall be exempt from the payment of dues.

CHAPTER II. GENERAL MEETINGS

Section 1. The General Meetings shall be open to all registered members and guests.

Sec. 2. All papers read before this Association shall be its property. Each paper, when it has been read, shall be deposited with the Secretary. Authors of papers read before this Association shall not cause them to be published elsewhere until after they have been published in its Journal.

Sec. 3. No person in the active practice of medicine in the State of Missouri shall appear on the program of the Association unless he or she is a member of the Missouri State Medical Association or an affiliated association or organization.

CHAPTER III. HOUSE OF DELEGATES

Section 1. The House of Delegates shall meet annually at the time and place of the Annual Session. It shall remain in continuous session on the first day of the Annual Session and complete the work coming before it at that session. It shall meet on the last day of the Annual Session to receive the report of the Nominating Committee and complete unfinished business and the election of officers. No new business shall be introduced at the last session without the unanimous consent of the delegates.

Sec. 2. Each component county society shall be entitled to send each year one delegate or one alternate to the House of Delegates for each fifty full paid members or fraction thereof in the Association on December 31 of the previous year, plus one additional delegate or alternate for each one hundred members or a major fraction thereof; provided, however, that each component society which is composed of two or more county societies shall be entitled to at least one delegate from each of the counties of which it is composed; however, such delegates must reside or practice in the county they represent. Alternate delegates may be elected from the entire membership of the component medical societies.

Sec. 3. Forty delegates shall constitute a quorum of the House of Delegates. All meetings of the House of Delegates shall be open to members of the Association.

Sec. 4. From among members of the House of Delegates the Speaker shall appoint reference committees to which reports and resolutions, on a majority vote of the House of Delegates, shall be referred as follows:

Reference Committee on Amendments to the Constitution and By-laws.

Reference Committee on Resolutions.

Reference Committee on Miscellaneous Affairs.

Reference Committee on Medical Education and Public Welfare.

Reference Committee on Reports of Officers.

The Speaker may appoint such other reference committees as he may deem necessary, upon approval of the House of Delegates.

The President shall appoint a Committee on Credentials.

Sec. 5. The House of Delegates shall elect delegates and alternates to the House of Delegates of the American Medical Association in accordance with the Constitution and By-laws of that body.

Sec. 6. The House of Delegates shall divide the state into Councilor Districts specifying what counties each district shall include and, when the best interest of the Association and the profession will be promoted thereby, organize in each a district medical society of which all members of the component county societies shall be members.

Sec. 7. The House of Delegates shall have authority to appoint committees for special purposes from among members of the Association who are not members of the House of Delegates. Such committees shall report to the House of Delegates and may be present and participate in the debate on their reports.

Sec. 8. The House of Delegates shall receive and act upon a complete and detailed annual audit of receipts and expenses of the preceding year and a proposed budget for the current calendar year which shall have been prepared by the Council and submitted to the component county societies at least four weeks prior to the Annual Session. These shall be published in the Journal.

Sec. 9. The following shall be the general order of business of the House of Delegates for the first meeting of the session:

1. Call to order by the Speaker.
2. Report of the Committee on Credentials.
3. Roll call.
4. Reading and adoption of minutes.
5. Report of officers.
6. Report of committees.
7. Unfinished business.
8. New business.

The following shall be the general order of business of the House of Delegates for the last meeting of the session:

1. Call to order by the Speaker.
2. Report of the Committee on Credentials.
3. Roll call.
4. Reading and adoption of minutes.
5. Report of the Nominating Committee.
6. Election of officers.
7. Reports of officers.
8. Reports of committees.
9. Unfinished business.
10. New business (see Sec. 1, Chap. III).
11. Installation of officers.
12. President's appointments and installation of members to committees.
13. Selection of the place for the next Annual Session.

At any meeting of the House of Delegates, the order of business may be changed by a two thirds affirmative vote of the members present and voting.

CHAPTER IV. ELECTION OF OFFICERS

Section 1. The President on the first day of the Annual Session shall select a Committee on Nominations consisting of ten delegates, no two of whom shall be from the same Councilor District. The Committee on Nominations shall report the result of its deliberations to the House of Delegates in the form of a ticket containing the name of one member for each of the offices listed in Article VII of the Constitution which are to be filled at that Annual Session excepting the President-Elect who shall be nominated from the floor of the House of Delegates.

Sec. 2. All elections of officers shall be by acclamation unless ballot is called for. A majority of the votes cast shall be necessary to elect except for delegates and alternates to the American Medical Association, who shall be elected as follows:

In case no delegates or alternates for the American Medical Association receive on the first ballot a majority of the votes, the nominees shall be declared elected in the order of the highest number of votes received until the allotted number shall have been chosen. In case of a tie vote for delegate or alternate, the tie shall be determined by lot.

In case no nominee for general offices of the Association (see Article VII, Constitution) receives a majority of the votes on the first ballot, the nominee receiving the lowest number of votes shall be dropped and a new ballot taken. This procedure shall be continued until one of the nominees receives a majority of all the votes cast, when he shall be declared elected.

Sec. 3. Nothing in this chapter shall be construed to prevent additional nominations being made from the floor by members of the House of Delegates.

Sec. 4. Delegates present at the Annual Session from Councilor Districts whose Councilors' terms expire shall hold meetings on or before the morning of the last day of the Annual Session and elect a Councilor for their District for a term of two years. The name of the elected Councilor shall be given on a prescribed form to the Secretary for presentation to the House of Delegates. Each candidate for Councilor must reside or practice in the district for which he is elected.

Sec. 5. The Speaker and Vice Speaker shall not serve more than three consecutive terms.

Sec. 6. The Speaker shall appoint a parliamentarian to serve as such during the session of the House of Delegates at each Annual Session and upon whom the Speaker may call before deciding points of order or procedure.

CHAPTER V. DUTIES OF OFFICERS

Section 1. The **President,** or his designated representative, shall preside at all scientific sessions of the Association. He shall preside at the House of Delegates in the absence of the Speaker or Vice Speaker and until their successors are elected. He shall appoint all committees not otherwise provided for. He shall deliver an annual address at such time as may be arranged and shall perform such other duties as custom or parliamentary usage requires. He shall be the real head of the profession of the state and assist the Councilors in building up the county societies and in making their work more practical and useful.

Sec. 2. The **President** and the **President-Elect** shall be members of the Council and shall attend all meetings of the Council. Should the office of President-Elect become vacant through death or otherwise the Council may fill the vacancy until the next Annual Session of the Association.

Sec. 3. The **Vice Presidents** shall assist the President in the discharge of his duties. In the event of the death, resignation or removal of the President the Council shall select one of the Vice Presidents to serve the unexpired term.

Sec. 4. The **Treasurer** shall give bond in the sum of $20,000. He shall demand and receive all funds due the Association, together with bequests and donations. He shall pay money out of the treasury only on a written order of the President, countersigned by the Secretary; he shall subject his accounts to such examination as the House of Delegates may order, and he shall annually render an account of his actions and of the state of the funds in his hands.

Sec. 5. The **Secretary** shall attend the General Meetings of the Association and the meetings of the House of Delegates, and shall keep minutes of their respective proceedings in separate record books. He shall be Secretary of the Council and shall keep a record of its proceedings. He shall be custodian of all record books and papers belonging to the Association, except such as properly belong to the Treasurer, and shall keep account of and promptly turn over to the Treasurer all funds of the Association which come into his hands. He shall provide for the registration of the members and delegates at the Annual Session. He shall, with the cooperation of the secretaries of the component societies, keep a card index register of all the legal practitioners of the state by counties, noting on each his status in relation to his county society, and shall transmit a copy of this list to the American Medical Association, transmitting to its Secretary each month a report containing the names of new members and the names of those dropped from the membership roster during the preceding month. He shall conduct the official correspondence, notifying members of meetings, officers of their election and committees of their appointment and duties. He shall employ such assistants as may be ordered by the Council and shall make an annual report to the House of Delegates. He shall supply all component societies with the necessary blanks for making their reports and shall collect from them the regular per capita dues and assessments and turn the same over to the Treasurer. The amount of his salary shall be fixed by the Council.

CHAPTER VI. COUNCIL

Section 1. The Council shall meet during the Annual Session at such times as necessity may require, subject to the call of the Chairman or on petition of three Councilors. It shall meet on the last day of the Annual Session to organize. The Council shall elect a Chairman and a Vice Chairman for a term of one year. The Chairman may be reelected to serve not more than four consecutive terms of one year each. The Council shall, through its Chairman, make an annual report to the House of Delegates.

Sec. 2. Each Councilor shall be organizer, peacemaker and censor for his district. He shall visit each county in his district at least once a year for the purpose of organizing component societies where none exists, for inquiring into the condition of the profession, and to keep in touch with the activities of and to aid in the betterment of the component societies of his district. He shall make reports of his work and the condition of the profession of each county in his district to the Council. The necessary traveling expenses incurred by each Councilor in the line of duties herein imposed may be allowed on a proper itemized statement submitted monthly and within the current year, but this shall not include his expense in attending the Annual Session of the Association. No Councilor shall be eligible for the position of Delegate to the House of Delegates during his term of office as Councilor, nor shall he vote in the House of Delegates.

Sec. 3. The Council shall be the executive body of the House of Delegates and between sessions shall exercise the power conferred on the House of Delegates by the Constitution and By-laws.

Sec. 4. The District Councilor together with two members of component societies within the Council District, selected by the Councilor, shall serve as a Board to hear and by a majority vote adjudicate any questions involving the right and standing of members, either in relation to other members or to component societies or to the Association, and all matters of discipline affecting the conduct of members of component societies, or other matters.

The Council shall be the appellate Board of Censors of the Association. It shall hear and adjudicate all matters on appeal from the decision of the Councilor Board; it shall hear and adjudicate matters of an ethical nature brought before the House of Delegates or the general meeting which shall be referred to the Council without discussion. On original decision or appellate determination, its decision shall be final unless appealed to the then convened meeting or the next meeting of the House of Delegates.

Sec. 5. Charters shall be issued to county societies only on approval of the Council, and shall be signed by the President and Secretary of this Association. Upon the recommendation of the Council, the House of Delegates may revoke the charter of any component society whose actions are in conflict with the letter or spirit of this Constitution and By-laws.

Sec. 6. In sparsely settled sections the Council shall have authority to organize the physicians of two or more counties into societies, to be suitably designed so as to distinguish them from district societies, and these societies, when organized and chartered, shall be entitled to all rights and privileges provided for component societies until such counties shall be organized separately.

Sec. 7. The Council shall provide for and supervise the issuance of all publications of the Association including proceedings, transactions and memoirs, and shall have authority to appoint an Editor and such assistants as it deems necessary. It shall prescribe the methods of accounting and through a committee of three of its members, to be known as a Committee on Auditing and Appropriations, shall audit all accounts of this Association. The Council shall adopt an annual budget providing for the necessary expenses of the Association for the following calendar year. This budget shall be prepared and presented for consideration in the last quarter of each year by the Committee on Auditing and Appropriations. A complete and detailed report shall be submitted to the component county medical societies as provided in Section 8, Chapter III. The Council shall submit an annual report of the House of Delegates which shall specify the character and cost of the publications of the Association, the amount and character of all its property, and shall provide full information concerning the management of all affairs of the Association which the Council is charged to administer.

Sec. 8. The Council shall appoint at least six months before the Annual Session, a committee consisting of three of its members to be known as the Committee on Arrangements for the Annual Session. On recommendation of the Committee, the Council shall appoint a general chairman of a Local Committee on Arrangements, who shall be a member of the component society of the county in which the Annual Session is to be held, and who shall appoint and organize from the members of this county society the personnel of the Local Committee on Arrangements. The Local Committee on Arrangements shall provide suitable meeting places and shall have general charge of all local arrangements subject to the approval of the Committee on Arrangements for the Annual Session. All receipts and disbursements related to the Annual Session shall be handled by the Committee on Arrangements on recommendations of the Committee on Budget and Appropriations.

Sec. 9. The Council shall by appointment fill any vacancy in office not otherwise provided for which may occur during the interval between Annual Sessions of the House of Delegates; the appointee shall serve until his successor has been elected and has qualified.

Sec. 10. The salaries of all employees of the Association shall be fixed by the Council.

Sec. 11. The Council shall provide such headquarters for the Association as may be required to conduct its business properly.

Sec. 12. The Council shall be empowered to elect an Executive Secretary and Assistant Executive Secretary and such other personnel as may be necessary, who need not be members of the Missouri

State Medical Association, each of whom shall perform such duties as the Council may designate and receive such salary and serve for such periods and under such conditions as the Council may determine.

CHAPTER VII. COMMITTEES

Section 1. The Committees of the Association shall be standing committees and special committees.

Sec. 2. The standing committees, unless otherwise provided in these By-laws, shall consist of five members serving three year terms and shall be:

A Committee on Scientific and Postgraduate Work.
A Committee on Publication.
A Committee on Medical Defense.
A Committee on Medical Education and Hospitals.
A Committee on Medical Economics.
A Committee on Cancer.
A Committee on Maternal Welfare.
A Committee on Infant and Child Care.
A Committee on Mental Health.
A Committee on Constitution and By-laws.
A Committee on Control of Venereal Disease.
A Committee on Trauma.
A Committee on Eye Health.
A Committee on Diabetes Mellitus.
A Committee on Anesthesiology.
A Committee on Laboratory Medicine.
A Committee on Disaster Medical Care and National Defense.
A Committee on Physical Medicine and Rehabilitation.
A Committee on Aging.
A Committee on Radiology and Ionizing Radiation.
A Committee on Public Service.
A Committee on Legislative Matters.

The Committee on **Scientific and Postgraduate Work** shall consist of three members, of which the Secretary shall be one, and shall determine the character and scope of the scientific proceedings of the Association for each Annual Session subject to the instructions of the House of Delegates. The Committee shall provide speakers for district society meetings as requested.

The Committee on **Publication** shall include the Editor or Acting Editor. The Committee shall be appointed by the Council annually. The chairman shall be designated by the Council. It shall have referred to it all reports on scientific subjects and all scientific papers and discussions heard before the Association. It shall be empowered to curtail, abstract or reject papers and discussions. It shall arrange for the publication and distribution of the Journal.

The Committee on **Medical Defense** shall, upon request accompanied by complete history of the case and copy of plaintiff's petition if filed, advise and aid any member in good standing who has had filed against him individually a civil malpractice suit and may recommend assistance in defraying costs to an amount not to exceed $300.00. The Association shall not be obligated to pay, nor shall it pay, either in whole or in part, any sum agreed upon in compromise, nor any judgment or part thereof, nor shall it pay any of the costs of taking depositions nor any court costs. No member shall be entitled to this defense should the charge of malpractice be brought jointly against him and a hospital or sanatorium in which he is, or at the time of the alleged malpractice, was financially interested.

The Committee on **Medical Education and Hospitals** shall serve in the state for the Council on Medical Education and Hospitals of the American Medical Association and shall have referred to it all questions pertaining to hospitals and medical education.

The Committee on **Medical Economics** shall investigate matters affecting the economic status of medicine and shall report annually to the House of Delegates such recommendations as may, in its judgment, seem proper.

The Committee on **Cancer** shall investigate the facilities provided for the care of the cancer sufferer and for the study of cancer in the State of Missouri and shall cooperate with the American Society for the Control of Cancer and other ethical organizations for cancer control to the end that authentic information in regard to diagnosis and treatment of cancer be properly disseminated throughout the State of Missouri.

The Committee on **Maternal Welfare** shall keep in touch with and investigate matters concerning maternal and child welfare. It shall carry on activities in the field of maternal and child welfare and in cooperation with the Committee on Scientific and Postgraduate Work and the Division of Child Hygiene of the State Division of Health shall conduct postgraduate courses for the profession and disseminate information of an educational nature.

The Committee on **Infant and Child Care** shall consist of ten members, one from each of the ten Councilor Districts, appointed annually by the President. The Committee shall concern itself with the betterment of infant and child care and shall be a liaison with the Bureau of Child Hygiene of the State Division of Health. The Committee shall study and make recommendations regarding various public, private and parochial school health programs in this state.

The Committee on **Mental Health** shall be composed of ten members not all of whom are specialists in psychiatry and shall engage in the promotion of good mental health, the prevention of mental ill health and lend its support toward securing cooperation of all state or governmental agencies in obtaining better treatment of the mentally ill. It shall cooperate with the Committee on Mental Health of the American Medical Association and with the Division of Mental Diseases of the State of Missouri.

The Committee on **Constitution and By-laws** shall propose such amendments to the Constitution and By-laws as are deemed wise and expedient, and bring before the House of Delegates such amendments as it or other members of the Association may present for consideration.

The Committee on **Control of Venereal Disease** shall review the available information on the venereal disease problem, assemble additional information concerning the nature and extent of the facilities which now exist for the diagnosis, recommend such supplemental and new state or local facilities and measures as seem desirable in dealing with these infections and to cooperate fully with the State Division of Health and the United States Public Health Service in carrying out such venereal disease programs as have been or may in the future be established.

The Committee on **Trauma** shall disseminate information regarding the current and approved methods of handling trauma and stimulate interest therein, such information to be disseminated to licensed practitioners of medicine and to lay groups approved by the Committee. It shall correlate its programs with those of the Committee on Scientific and Postgraduate Work. The chairman of the Committee shall have the right to appoint three junior members to work under his direction.

The Committee on **Eye Health** shall promote and maintain an educational program in each Councilor District, before medical and lay audiences, relative to ocular hygiene, conservation of eyesight and prevention of blindness. It shall correlate its program with that of the Committee on Scientific and Postgraduate Work and the local, state and national associations or societies for the prevention of blindness. The Committee may have associate members as the Committee may deem advisable.

The Committee on **Diabetes Mellitus** shall keep in touch with and investigate matters concerned with diabetes mellitus and carry out such activities as may be deemed appropriate.

The Committee on **Anesthesiology** shall study matters concerned with anesthesiology and carry out such activities as may be deemed appropriate.

The Committee on **Laboratory Medicine** shall study all matters pertaining to pathology including the following subdivisions: postmortem pathology, surgical pathology, exfoliative cytology, medical bacteriology, parasitology, virology, mycology, serology, hematology, chemistry, toxicology, clinical microscopy and blood banking. On the basis of such studies, the Committee shall report annually to the House of Delegates and to the Council whenever necessary and shall make such recommendations as may in its judgment seem proper.

The Committee on **Disaster Medical Care and National Defense** shall consist of ten members of the Association, appointed annually by the President, one from each of the ten Councilor Districts, and in addition, any other members who are interested in the medical aspects of disaster medical care and national defense. The Committee shall concern itself with the development of disaster medical care and national defense operations in the state and shall cooperate with public officials and private organizations in the furtherance of disaster medical care and national defense activities.

The Committee on **Physical Medicine and Rehabilitation** shall consider matters concerned with physical medicine and with rehabilitation, including vocational rehabilitation.

The Committee on **Aging** shall consider matters concerned with the problem of our aging population in relation to health care.

The Committee on **Radiology and Ionizing Radiation** shall consider matters concerned with radiology and ionizing radiation and shall disseminate information regarding the use of radiology and ionizing radiation to physicians and other interested groups in this state.

The Committee on **Public Service** shall concern itself with promoting good relations between the profession and the public, and to act to represent the Association in matters of public affairs. It shall cooperate with similar committees of the county medical societies in order to disseminate information to the public regarding the science and art of medicine and the protection of public health.

The Committee on **Legislative Matters** shall consist of five members of the Association, appointed annually by the President. The Committee shall consider legislative matters affecting the practice of medicine and public health and shall make recommendations to the Council and the House of Delegates.

Sec. 3. Special committees may be appointed by the President or the Council as circumstances may demand.

Sec. 4. Associate members of standing committees may be appointed when deemed advisable. The term of such members shall be for one year.

Chapter VIII. Dues and Assessments

Section 1. (a) The annual dues of this Association shall be $52.50, which shall be applicable to each active member of the Association and shall be levied per capita on the active members of the component societies; the per capita levy for junior members shall be one half of the per capita levy for active members; honor and associate members shall not be required to pay dues. Dues shall be payable on January 1 of the year for which they are levied.

(b) An assessment of $7.50 per year on each Active member of the Association and $3.75 per year on each Junior member shall be applicable for a three-year period beginning in 1966. The assessment shall be payable with the dues of the Association, and the monies collected therefrom shall be remitted to the Missouri State Medical Foundation.

Sec. 2. Three dollars of the annual dues shall be credited to the account of the Journal for each member's annual subscription. The remainder of the amount shall be credited to the general fund of the Association.

Sec. 3. The House of Delegates may, when in its judgment the best interest of the Association demands, recommend an assessment on each active member. Such assessment shall be levied only by consent of two thirds of the members of the House of Delegates present and voting. Funds obtained from such special assessments shall be allocated only for the purposes for which such assessment is levied and in accordance with substantiating budgets. Unexpended balances from such assessments must be reported to the House of Delegates for re-allocation.

Sec. 4. The secretary of each component society shall cause to be collected and remitted to the Treasurer of this Association the per capita levies. Any member whose name has not been reported for enrollment and whose dues have not been remitted to the Treasurer of this Association on or before March 1 shall stand suspended until his name is properly reported and his dues for the current year are paid. On December 31 of each year, members delinquent in payment of dues, and assessment if such has been made, or any part thereof shall, ipso facto, forfeit their memberships. No suspended member shall be eligible to register at an annual session.

Chapter IX. Rules of Conduct

The ethical principles governing the members of the American Medical Association shall govern members of this Association.

Chapter X. Rules of Order

The deliberations of this Association shall be conducted in accordance with parliamentary usage as defined in *Robert's Rules of Order.*

Chapter XI. County Societies

Section 1. All county societies now in affiliation with the State Association or those that may hereafter be organized in this state, which have adopted principles of organization not in conflict with this Constitution and By-laws shall, upon application to the Council, receive charters from this Association, provided that their Constitutions and By-laws shall have been submitted to the Council and received its approval.

Sec. 2. Only one component medical society shall be chartered in each county.

Sec. 3. Each county society shall judge of the qualifications of its members, subject to review and final decision by the Council of the State Association. Every reputable and legally qualified physician who does not practice, nor profess to practice sectarian medicine, and who resides or practices in the same county, who shall apply for membership on the prescribed form and subscribe for the Journal and pay the annual dues and assessments for the current year, shall be eligible for election to membership.

A member of a component society whose license has been revoked shall be dropped from membership automatically as of the date of revocation. The Council of the State Association shall have final authority to expel a member should a component county society fail to do so after being so requested by the Council.

The Council may upon request of a component society remit the state dues and assessment of a member who has become totally and permanently incapacitated through mental or physical disability and has been a member in good standing during the three consecutive years immediately preceding his disability; provided, that the component society shall remit the county society dues of such member.

The Council may, upon request of a component society, remit the state dues and assessments of a deserving member, found to fall within what is classified as a hardship case, during the period of said hardship until such time as the dues again become payable; provided that the component society shall remit the county society dues of such member.

The Council may, upon the request of a component society, waive the dues of any member in good standing for such a period as the member is serving in the Armed Forces of the United States of America, or similar service with any of the allies of the United States, and for six months thereafter.

A physician living near a county line may hold his membership in that county most convenient for him to attend, on permission of the component society in whose jurisdiction he resides.

Sec. 4. Any physician who may feel aggrieved by the action of the society of his county in suspending or expelling him shall have the right to appeal to the Council whose decision shall be final. A county society shall at all times be permitted to appeal or refer questions involving membership to the Council of the State Association for final determination.

Sec. 5. In hearing appeals the Council may admit oral or written evidence or both as in its judgment will most fairly present the facts.

Sec. 6. When a member in good standing in a component county society moves to another county in this state, he shall be given a written certificate of these facts by the secretary of his society, without cost, for transmission to the secretary of the society in the county to which he moves. Pending his acceptance or rejection by the society in the county to which he moves such member shall be considered to be in good standing in the county society from which he was certified and in the State Association to the end of the period for which his dues have been paid.

A member of a component society who moves to and engages in the practice of medicine at a location in another county in which there is a component society shall forfeit his membership in this Association and the Secretary shall remove his name from the roster of members of the Missouri State Medical Association unless within one year after such change of residence he becomes a member of the component society in the county to which he has moved.

Sec. 7. Each county society shall have general direction of the affairs of the profession in the county, and its influence shall be constantly exerted for bettering the scientific, moral and material condition of every physician in the county. Systematic efforts shall be made by each member, and by the society as a whole, to increase the membership until it includes every eligible physician in the county.

Sec. 8. At some meeting in advance of the Annual Session of this Association, each component county society shall elect one or more delegates and an equal number of alternates therefor to represent it in the House of Delegates of this Association, in accordance with Chapter III, Section 2 of these By-laws. The secretary of each county society shall send a list of such delegates and alternates to the Secretary of this Association at least sixty days before the Annual Session. Representation in the House of Delegates shall be contingent on compliance with the foregoing provisions.

Sec. 9. The secretary of each county society shall keep a roster of its members and, if practicable, a list of non-affiliated physicians, in which shall be shown the full name, address, college and date of graduation, date of license to practice in this state, and such other information as may be deemed necessary by the Council. He shall send a copy of the program of each meeting to his district councilor and to the Secretary of the State Association.

Sec. 10. Any county component society, in a manner approved by the State Association, or the State Association with the consent of the county society or societies affected, may undertake, organize and put into effect plans for the medical care of indigent persons or indigent groups, and low income groups, by agreements with physicians, public officials or others and by the use of contributions, cooperative funds or other means; provided, however, that a free choice of the available and participating physicians in that territory shall be allowed to the patient and that all relationships, legal or otherwise, between the physician and the patient shall be and remain as though is were strictly an individual employment.

Chapter XII. Amendments

Section 1. These By-laws may be amended at any Annual Session by a two thirds vote of the delegates present and voting at that session, if the proposed amendment has been properly submitted to the House of Delegates and has laid on the table for one day.

Sec. 2. Upon the adoption of this Constitution and these By-laws all previous constitutions and by-laws are thereby repealed.

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Missouri medicine.
v.63, 1966.

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